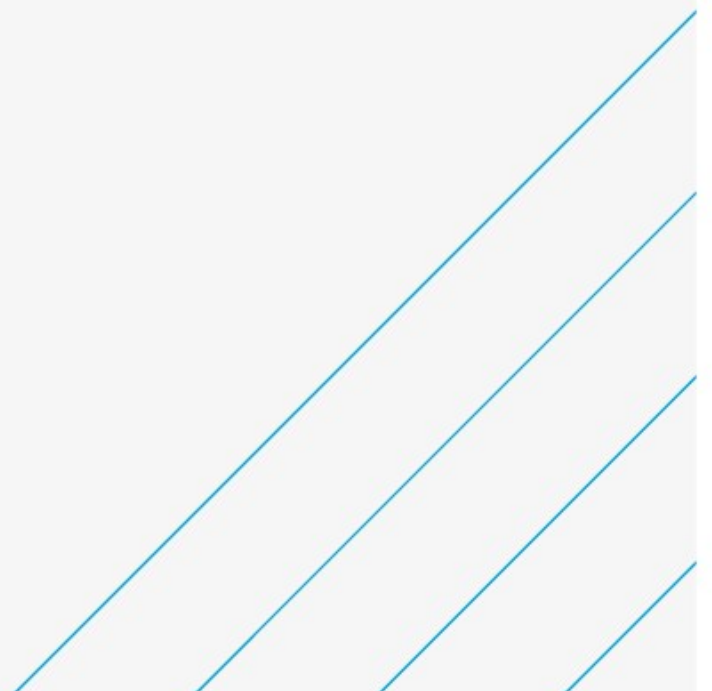


Expenditure review of WaterNSW Rural Bulk Water Services and Corporate Cost Allocation

Supplementary Report

IPART

07 June 2021



Notice

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1. Introduction

1.1. Terms of Reference

In August 2020 the Independent Pricing Tribunal of New South Wales (IPART) appointed the Atkins/Cardno consortium to carry out a detailed review of WaterNSW's rural bulk water services operating and capital expenditure. The purpose of this review is to inform the Tribunal's Determination on prices for the upcoming price control period which will apply from 1st July 2021 to 30th June 2025 (2021 determination period).

IPART issued its Draft Determination and Report in March 2021. WaterNSW submitted a response to this Draft Determination in April 2020. We were subsequently asked by IPART to review WaterNSW's response and report our findings to the Tribunal. This report has been prepared in accordance with the Terms of Reference set out in the contract between Atkins/Cardno and IPART dated 5 July 2019.

1.2. WaterNSW submission to IPART

WaterNSW submitted a report to IPART dated 16 April 2021 making representations on a range of issues in the IPART Draft Determination Report. Our Terms of Reference asked us to review those areas of operating and capital expenditure which were challenged by WaterNSW. They are related to:

1. Labour Costs
2. Flood Operations
3. Land Tax Liabilities
4. Regulatory staff
5. Cold Water Pollution
6. Fish passage offset schemes
7. Capitalised overheads
8. Catch up and continuing efficiencies
9. Corporate Cost allocations

1.3. Review process

We received Water NSW's response submission on 19 April 2021 and the following week subsequently held a series of teleconference meetings on specific areas of material importance including:

- Fish passage offset schemes
- Cold Water pollution
- Corporate cost allocation
- Additional operating expenditure information

Atkins/Cardno would like to take the opportunity to thank WaterNSW for making its staff available for the teleconference interviews and for the responses to our requests for further detail received within the short timescales available.

1.4. Price base and cost data

The financial information used for this review is based on the Annual Information Return and Special Information (AIR/SIR) data submitted by WaterNSW in June 2020 and then updated in October 2020. WaterNSW provided AIR/SIRs updated for 2019/20 actual data and a number of additional expenditure items in October 2020. It then requested a number of supplementary expenditure items in its response to our Draft

Report in December 2020¹. This report is based on the October 2020 AIR/SIR submission, supplemented by a review of the additional expenditure items requested by WaterNSW.

Within the AIR/SIR, historical costs are recorded on a nominal basis. IPART has requested WaterNSW to provide forecasts costs in a real price base of 2020/21. For our analysis and within this report, we have sought to present all historical and forecast costs in a consistent, real price base of 2020/21. This allows for better comparison of the underlying trends and drivers of costs over time. To achieve a consistent price base, inflation indices supplied by IPART have been applied to historical costs. The indices applied to convert all costs to a real 2020/21 price base are summarised below.

Table 1-1 Indices used to convert costs to real 2020/21 price base

Period (Inflated)	2016/2017	2017/2018	2018/2019	2019/2020	2020/2021
Inflation Factor (CPI)	1.90%	2.10%	1.60%	2.10%	2.50%
Compounding Factor (Real 2020/21)	1.086	1.063	1.047	1.025	1.000

Unless otherwise noted, all prices within this report are presented in a real price base of 2020/21.

1.5. Terminology in this report

A number of terms are used within this report which have specific meaning relating to the regulatory process. These terms are detailed in Table 1-2 below.

Table 1-2 Determination period terminology

Term	Usage
2017 Determination	The determination made by IPART which set maximum prices for WAMC's services for the period 1 July 2017 to 30 June 2021.
2017 Determination period or Current Determination period	The period from 1 July 2017 to 30 June 2021 which was the subject of the 2017 Determination
2021 Determination period or Future Determination period	This period covers either the period from 1 July 2021 up to 30 June 2022 (one year determination) OR This period covers the period from 1 July 2021 up to 30 June 2025 (four year determination)
Pricing submission or proposals	The document prepared by WaterNSW that summarise the level of service that they will provide with respect to WaterNSW rural bulk water services for the future determination period, how they will provide this service and the operating and capital expenditure required to do so. The Special Information Return (SIR) submitted to IPART in June 2020 and resubmitted in October 2020 contains the detailed operating and capital expenditure proposals.

WaterNSW has four separate businesses subject to IPART price determinations:

- WaterNSW's Greater Sydney bulk water services;
- WaterNSW rural water bulk water services;
- WaterNSW bulk supply services to Essential Energy (Broken Hill); and

¹ "Response to Atkins expenditure review Draft Report for Rural Valleys" dated 4 December 2020

- Water Administration Ministerial Corporation (WAMC) shared services.

Within this report we refer to WaterNSW's rural bulk water services determination as WaterNSW and the Water Administration Ministerial Corporation (WAMC) shared services determination administered by DPIE as WAMC unless otherwise stated.

2. Operating expenditure

2.1. Water NSW Representation

In WaterNSW's response to the Draft Determination, it stated its view that "WaterNSW considers that its proposed operating expenditure should be reinstated in full".

WaterNSW made specific representations in the following areas:

- WaterNSW proposed reductions in total expenditure
- Labour costs
- Flood operations
- Transformation strategy development
- Land tax liabilities
- Regulatory staff
- Environmental planning and protection
- Cold water pollution
- Continuing efficiencies
- Catch-up efficiencies

These representations are discussed in turn in the following sections.

2.2. Reductions applied by WaterNSW

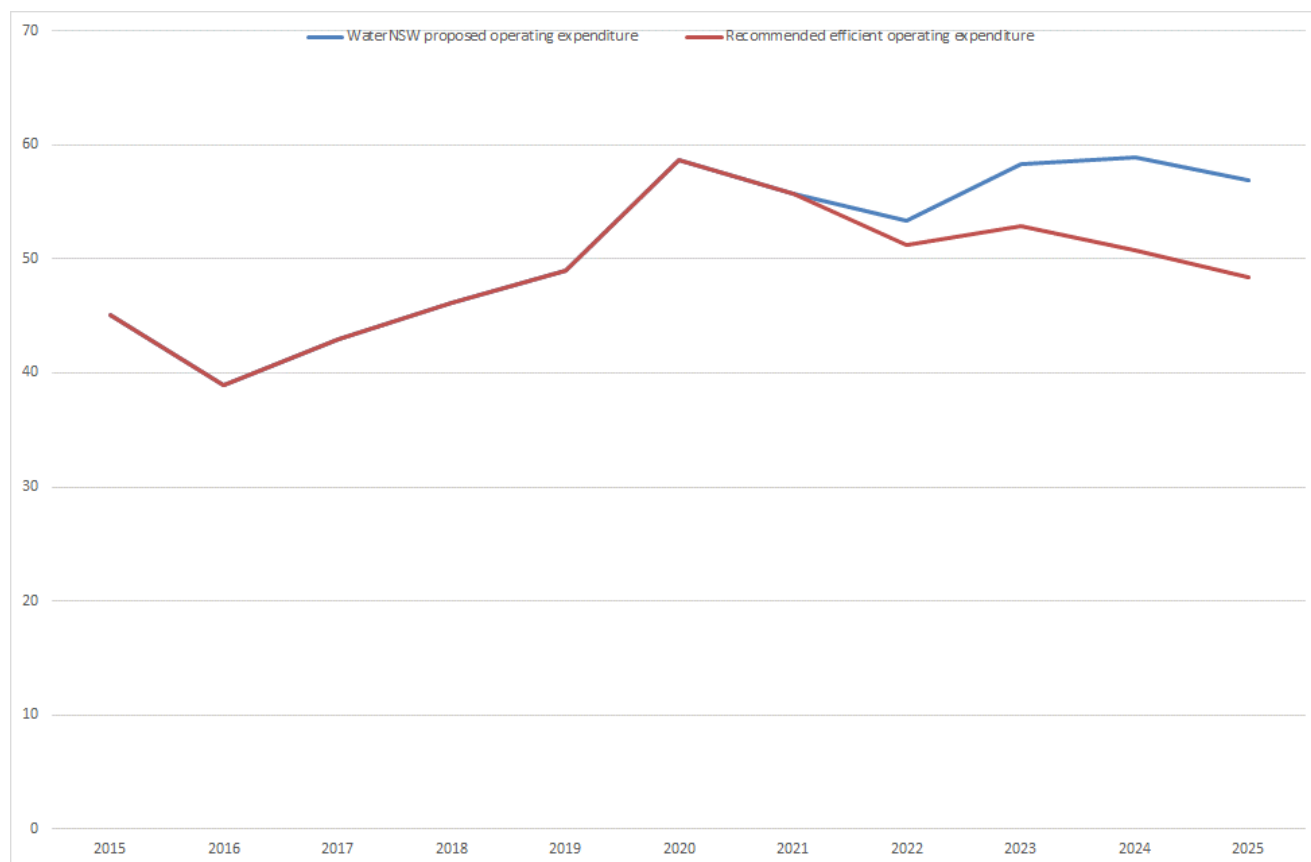
In its response to the Draft Determination WaterNSW asserts that it has proposed a reduction in total expenditure relative to FY20 stating:

IPART has not considered our proposed reductions in total expenditure. Our pricing proposal results in a 3% reduction in total expenditure over the 2021 Determination Period relative to 2019-20. WaterNSW submits that Atkins should assess our proposal holistically at the total expenditure level, including the combined impact of direct salaries, overhead and other direct costs.

We note that the apparent reductions WaterNSW cites are relative to expenditure in FY20. Opex in FY20 was unusually high due to a number of factors such as a \$3.6M provision for historical land tax liabilities recognised in FY20 and expenditure to combat the drought.

As we noted in our Final Report, WaterNSW projects an average increase of 9% or \$4.5M p.a. for the FY22 to FY25 period compared to the 2017 Determination period. WaterNSW's proposal assumed that opex would be higher in the 2021 Determination period than in all previous years except for the unusually high FY20 as can be seen in the blue line below.

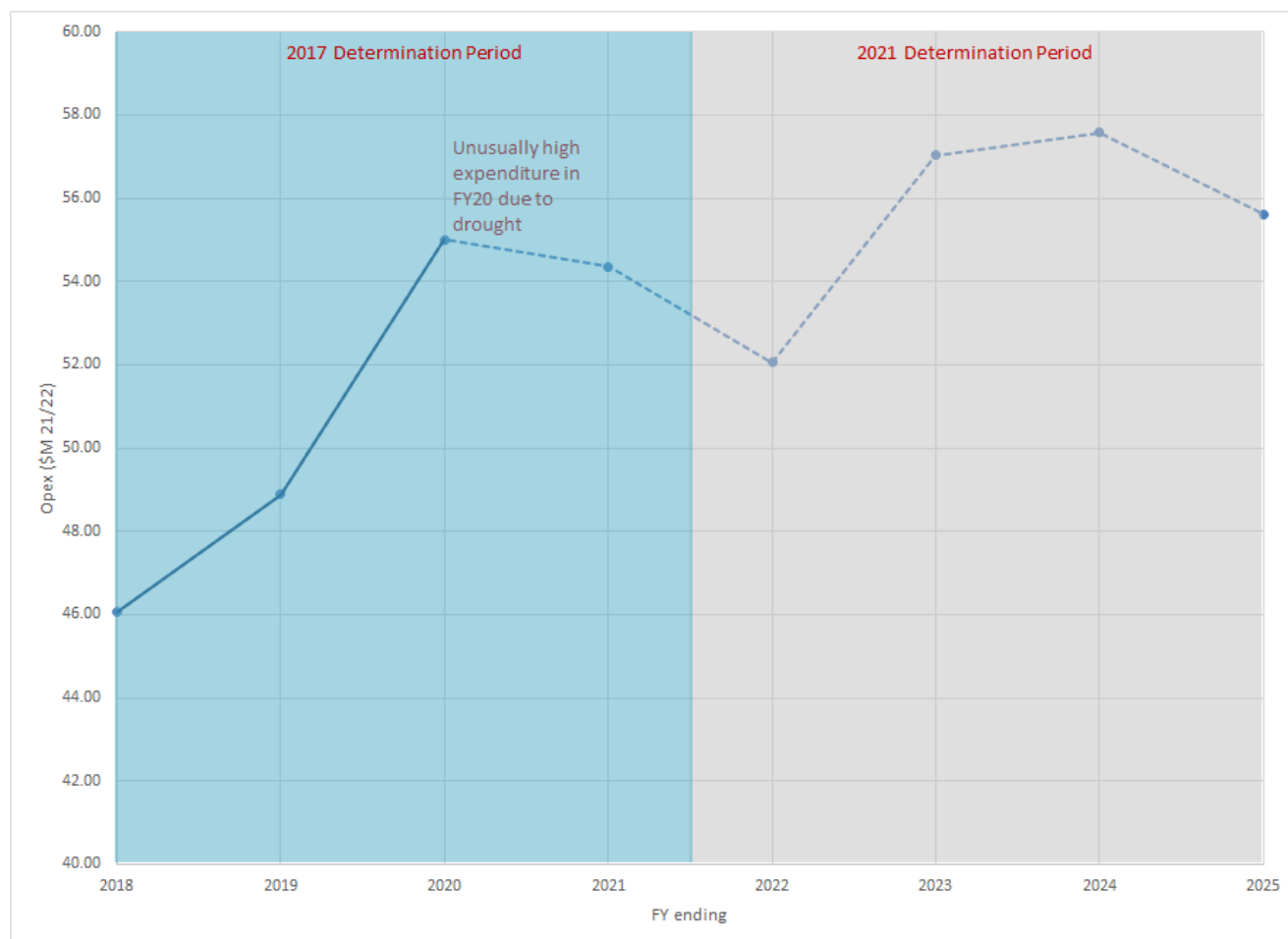
Figure 2-1 Proposed and recommended efficient operating expenditure (\$M 20/21)



Source: Figure 5-2 of our Final Report itself based on “Opex” tab in WaterNSW’s October 2020 AIR/SIR and Atkins/Cardno analysis.

When we remove the impacts of the land tax it is clear that WaterNSW is proposing expenditure which is higher than historical levels, with even the lowest expenditure year (FY22) higher than all recent previous actuals except FY20 (noting that FY21 is a projection).

Figure 2-2 Operating expenditure trends excluding land tax (\$M 20/21)



Source: WaterNSW's October 2020 AIR/SIR and WaterNSW document "Document 215 v2"

Note: FY21 is a WaterNSW projection. Note also that the y-axis has been truncated.

Conclusion

The opex requested by WaterNSW for the 2021 Determination period is significantly (9%) greater than the average in the 2017 Determination period. The comparisons to FY20 are misleading due to the effects of the provision for historical land tax liabilities recognised in year and drought expenditure.

The assertion by WaterNSW does not change our view or provide any new information affecting our recommendations.

2.3. Labour costs

WaterNSW's submission incorporated an increase in direct labour expenditure. In our Final Report we recommended maintaining direct labour costs at FY20 levels except for the increases in customer support and billing where WaterNSW is facing additional obligations.

In its response to the Draft Determination, WaterNSW makes the case that the increases in direct labour costs are offset by reductions in overhead charges and that we have not taken sufficient account of the benefits of the Enterprise Bargaining Agreement:

[REDACTED]

[REDACTED]

As part of its response WaterNSW also states that it understands that the allocation pool (AP) costs for flood operations appear to have been double counted in our analysis of direct cost increases.

In attachment to its response, WaterNSW has provided a spreadsheet “RV Section 2.2.2 Salary reductions” which gives further details of the offsetting reduction in overhead labour costs and allocation of the vacancy adjustment discussed in our Final Report. This analysis suggests that increases in direct labour costs are indeed offset by the vacancy adjustment and overhead cost reductions, with a direct cost increase of \$9.6M offset by a reduction of \$6.9M due to the vacancy adjustment and \$1.3M net reduction in overhead costs allocated to maintenance, dam safety and (net increase in) flood operations.

Conclusion

The information presented with WaterNSW’s response suggests that the increase in direct labour costs is offset by overhead salary cost reductions. We therefore recommend removing the \$3.9M adjustment made to maintain direct labour costs at FY20 levels.

2.4. Flood operations expenditure

In our Final Report we recommended maintaining direct labour at FY20 levels for most activity areas as discussed above. This meant that flood operations expenditure was not allowed to increase.

In its response to the Draft Determination, WaterNSW makes the case that it is appropriate for flood operations expenditure to increase relative to FY20 levels because of the coding changes and the end of the drought, stating for example:

WaterNSW has anticipated flood operation work over the 2021 Determination period based upon the drought breaking & recent rains ... The increase in flood operations expenditure is partly offset by a reduction in water delivery operating expenditure...

Compared to the 2019-20 actuals, there has also been an increase in budgeted salaries for this activity due to improvements in the budgeting process and finance business partnering. As noted previously, WaterNSW should not be penalised for introducing recent improvements to its cost coding framework, and timesheet reporting practices, including recent improvements in staff utilisation at the determination level.

Conclusion

This issue no longer applies now that we have recommended removing the \$3.9M adjustment made to maintain direct costs at FY20 levels, so no further change is required.

2.5. Transformation strategy development

In October 2020, WaterNSW requested an additional \$1.5M opex to fund a Long-term Transformational Strategy study.

We found that (a) WaterNSW had not made a strong case that this is a justified, new and material requirement that customers should be asked to pay for and (b) the immediate focus should be improving its focus on efficiency for customers. As such we found that we could not recommend accepting this increase.

In its response to the Draft Determination, WaterNSW requested that the additional expenditure be incorporated into recommended opex, stating:

The consultant’s \$1.5 million reduction for our development of a longer-term transformational strategy over four years should be reconsidered. The expenditure is required to develop business plans and transformation strategies aimed at improving organisational efficiency and lowering our operating expenditure over the 2022-25 determination period. The expenditure is a material requirement focused

on delivering efficiencies for the benefit of customers and meet customer expectation targets which will only grow over time.

In order to drive improved business performance, it is not uncommon for organisations to specifically allocate funds to acquire dedicated experienced expertise to support business transformation. Given IPART's proposed cost reductions and lower revenues arising from a lower WACC allowance, it is likely that WaterNSW will not have sufficient funding to invest in a dedicated cost transformation program.

Conclusion

WaterNSW has not provided any new information to enable us to change our recommendation related to the requested additional expenditure for transformation strategy development. We therefore conclude that we cannot recommend accepting the requested increase.

2.6. Land tax liabilities

In October 2020, WaterNSW requested additional opex related to land tax, stating that it needed an additional \$0.6M p.a. from FY23 to FY25. We found that the justification provided for the increase was too vague and uncertain for us to recommend accepting the proposed increase. We also found that we were not able to recommend the requested increase having not been given an assessment of the impact on the Rural Valleys.

In its response to the Draft Determination, WaterNSW again requested that additional expenditure be incorporated into recommended opex, stating:

WaterNSW considers that the \$1.8 million reduction in proposed land tax liabilities over the 2021 Determination period should be reversed. Our position on this issue was stated during the efficiency review.

Conclusion

WaterNSW has not provided any new information to enable us to change our recommendation related to the requested increase in land tax. We therefore conclude that we cannot recommend accepting the requested increase.

2.7. Regulatory staff

WaterNSW has requested that we reconsider the allocation of additional regulatory staff between Determinations. This is examined under Corporate Cost Allocation below.

2.8. Environmental Planning and Protection

WaterNSW's submission incorporated an increase in "Environmental Planning and Protection" (EPP) expenditure. In our Final Report we recommended maintaining EPP expenditure at pre FY21 levels stating that:

WaterNSW has not been able to justify the increase, stating that it relates to miscoding of Procurement Management and purchasing in the budget (RFI 191). We cannot recommend the increase in the absence of a clear offsetting reduction in other categories

In its Response to the Draft Determination, WaterNSW stated:

the perceived increase in Environmental Planning and Protection expenditure is due to the misclassification of procurement costs in the forward budget.

In discussion WaterNSW clarified that the expenditure relates to procurement and should be allocated across all of the activity areas. It provided a breakdown of the procurement expenditure from FY20 which better reflects the allocation between activities as shown below.

Table 2-1 – Breakdown of procurement expenditure miscoded to EPP

	2019-20	2021-22	2022-23	2023-24	2024-25
Procurement Management and Purchasing (RV component)	\$ 523,059	\$ 475,970	\$ 435,144	\$ 608,977	\$ 517,423
Allocated to Activities					
Asset management planning	\$ 7,474				
Corrective maintenance	\$ 54,096				
Customer billing	\$ 21,084				
Customer support	\$ 34,040				
Dam safety compliance	\$ 47,773				
Direct insurances	\$ 47,537				
Environmental delivery	\$ 330				
Environmental planning and protection	\$ 849	\$ 475,970	\$ 435,144	\$ 608,977	\$ 517,423
Flood operations	\$ 2,624				
Hydrometric monitoring	\$ 63,550				
Internal	-\$ 171,814				
Meter service charge	\$ 24,940				
Metering and compliance	\$ 33,109				
New metering and compliance	\$ 70				
Renewal and replacement	\$ 1,504				
Routine maintenance	\$ 222,808				
Structural & other enhancements	\$ 23				
Water delivery and other operations	\$ 124,071				
Water quality monitoring	\$ 8,992				
Total	\$ 523,059	\$ 475,970	\$ 435,144	\$ 608,977	\$ 517,423

Source: "Procurement analysis for Rural.xlsx"

Conclusion

We recommend removing the \$1.9M adjustment made to maintain EPP opex at pre FY21 levels.

We have not corrected for the miscoding across valleys and activities in the future period as it would require a complex accounting process mirroring WaterNSW's cost allocation processes. We note that the user share for EPP is lower than most other activity areas so the impact of leaving the miscoding in place is probably a minor net bill reduction.

2.9. Cold Water Pollution

Cold Water Pollution relates to an artificial lowering of the temperature in a water body and is caused by releases from dams during warmer months².

In its response to our Draft Report in December 2020, WaterNSW requested additional opex of \$3.75M for Cold Water Pollution mitigation at six dam sites: Copeton, Blowering, Keepit, Carcoar, Toonumbar and Lostock.

In our February 2021 Final Report we found we could not recommend the additional expenditure stating that:

"We would like to be supportive of expenditure which has benefits to customers and to the environment. However, in this case, WaterNSW has not provided a business case or strategy document, it has not demonstrated the appropriateness of scope or timing of the expenditure, how these particular dams have been selected for delivery in this period, and how customers will benefit from the proposed expenditure.... Much as we would like to support expenditure which has benefits to customers and to the environment, we have not therefore been able to recommend an increase in opex for this activity."

In its Response to the Draft Determination, WaterNSW provided a Business Case³ for this expenditure and requested that IPART consider the additional costs in finalising its Final Decision. We also held a discussion with WaterNSW on the proposed expenditure on 21 April 2021.

² Ref: Cold water pollution page of Department of Primary Industries (DPI) website: [Cold water pollution \(nsw.gov.au\)](https://www.dpi.nsw.gov.au/)

³ Cold Water Pollution Mitigation Options Development and Assessment: All-in-One Business Case

The proposed expenditure is to establish additional temperature monitoring and to prepare a Mitigation Options report. The Business Case provides a cost and scope breakdown as follows:

Table 2-2 – Cost and scope breakdown for proposed Cold Water Pollution expenditure

Item (\$m)	FY21	FY22	FY23	FY24	TOTAL
Opex					
Understand the legal framework and its Implications	-	0.13	0.06	-	0.19
Study Current Offtake Arrangements and Performance	-	0.13	0.06	-	0.19
Literature Search	-	0.13	0.06	-	0.19
Develop a Suite of Options	-	0.32	0.16	-	0.475
Options assessment	-	0.44	0.22	-	0.665
Final Report	-	0.13	0.06	-	0.19
Opex Contingency*	-	0.57	0.28	-	0.85
Total Opex	-	1.83	0.92	-	2.75
Capex					
Monitoring sites establishment	-	0.46	0.23	-	0.69
Capex Contingency*	-	0.21	0.10	-	0.31
Total Capex	-	0.67	0.33	-	1.00

*Includes allowances for risk and BU and Corporate overhead

Source: Cold Water Pollution All in One Business Case

We note that \$1.0M of the proposed expenditure is now classified as capex rather than opex. The capex relates to the proposed temperature monitoring expenditure summarised below:

Table 2-3 – Proposed temperature monitoring

Dam	Temperature monitoring future state
Copeton	<ul style="list-style-type: none"> Establish upstream temperature monitoring site on the Gwydir River close to the reservoir
Blowering	<ul style="list-style-type: none"> Establish temperature monitoring site upstream of the dam
Keepit	<ul style="list-style-type: none"> Move the upstream temperature data collection site closer to the reservoir
Carcoar	<ul style="list-style-type: none"> Establish temperature monitoring site upstream of the dam Move the downstream temperature data collection and algae monitoring site closer to the dam
Toonumbar	<ul style="list-style-type: none"> Establish temperature monitoring site upstream of the dam
Lostock	<ul style="list-style-type: none"> Establish temperature monitoring site upstream of the dam Move the downstream temperature data collection and algae monitoring site closer to the reservoir

Source: Cold Water Pollution All in One Business Case

WaterNSW has allocated the proposed expenditure between the dams/valleys affected. In discussion, WaterNSW explained that this was based on the complexity of the dam. It also appears to map against the priority level as can be seen in Table 2-6 below.

We do not have a breakdown of opex and capex by valley so have assumed the following breakdown in our assessment, based on the number of proposed temperature monitoring activities.

Table 2-4 – Assumed opex and capex breakdown by dam/valley

Dam	Valley	Proposed expenditure (\$M)	Assumed proposed capex (\$M)	Assumed proposed opex (\$M)
Copeton	Gwydir	0.750	0.125	0.625
Blowering	Murrumbidgee	0.750	0.125	0.625
Keepit	Namoi	0.750	0.125	0.625
Carcoar	Lachlan	0.600	0.250	0.350
Toonumbar	North Coast	0.450	0.125	0.325
Lostock	Hunter	0.450	0.250	0.200
TOTAL		3.750	1.000	2.750

Note: Capex allocated between the sites based on the proportion of the eight actions summarised in Table 2-3 above.

WaterNSW's proposed implementation programme is summarised below. We note that the monitoring site improvements are proposed to be carried out in parallel with the options assessments rather than in advance to inform them.

Table 2-5 – Proposed implementation timeframe

Stage	Activities & Milestones	Delivery Date
1	Develop methodology for options development and assessment	March 2022
2	Literature search and develop CWP mitigation options long list	June 2022
3	Screen the long-list of options to a short-list	September 2022
4	Assess the short-listed options against a set of criteria	January 2023
5	Establish new monitoring sites and move the existing ones to suitable locations	March 2023
6	Preliminary engineering assessment and cost estimation of the preferred option(s)	March 2023
7	Prepare CWP mitigation report incorporating all findings and results	June 2023

Source: Cold Water Pollution All in One Business Case

WaterNSW has explained that the expenditure is required because of the conditions of the Works Approvals for the dams. The Works Approvals contain wording which requires WaterNSW to develop options for the mitigation of cold water pollution subject to funding approval.

15. The Approval Holder must develop options, including a preferred option, for the mitigation of cold water pollution from Copeton Dam for consideration and approval by the Minister by July 2012. Where the Approval Holder seeks approval of funding from the Independent Pricing and Regulatory Tribunal of New South Wales or other Government bodies for the initial investigation and development of options, compliance with this condition is subject to funding approval for the works.
16. Subject to funding approval in accordance with condition fifteen (15), the Approval Holder must:
 - a) develop and implement a program for the construction of works to mitigate cold water pollution within 36 months of funding approval; and
 - b) in the Annual Compliance Report provide a progress report on the approved program of works.

Figure 2-3 Example of Works Approval condition

Source: Attachment X- Cold Water Pollution Options Study, WaterNSW Response to Draft Determination

During our discussion, WaterNSW explained that cold water pollution is considered to be one of the key environmental challenges faced by WaterNSW. We note that DPI also state⁴ that:

Cold water pollution is one of the key factors behind the reduction in the range and abundance of native freshwater fish species in NSW

WaterNSW implemented a cold water pollution mitigation project at Burrendong Dam which was completed in 2014. The aim was to use it as a trial of low-cost engineering solutions to mitigate the impacts of releases on the Macquarie River, with the intention of rolling it out at other dams if successful.

The scheme involved construction of a CWP curtain. This followed extensive planning, investigations and modelling over a number of years. However, WaterNSW report that the curtain has not been a success⁵:

Since installation, the curtain has experienced failures in several regards. The curtain has yet to properly undergo testing to determine its effectiveness of controlling cold water pollution at the outlet of the dam. However the assessment so far indicates that there might be a need to investigate other potential CWP mitigation works to replace the curtain in the future.

This highlights the need for careful identification and implementation of effective and cost-beneficial mitigation measures.

We understand that the Cold Water Pollution Inter-Agency Group has ranked the Rural Valleys dams in order of priority as follows⁶:

- High priority: Keepit, Copeton, Blowering (Wyangala- part of a separate program)
- Moderate priority: Carcoar
- Low priority: Lostock, Toonumbra

The 2019 Cold Water Pollution Mitigation Asset Options Report examined the issues and options for each of these dams. It used cost estimates and Multi-Criteria Analysis to develop a recommended option for each of the high priority dams, awarding the highest score to “multi level offtakes- sliding plates” in each case.

The report also set out a set of general and specific recommended actions for each dam. Recommended actions include legal review, economic analysis and modelling of mixers but also improvements to data collection at the dams.

⁴ Ref: Cold water pollution page of Department of Primary Industries (DPI) website: [Cold water pollution \(nsw.gov.au\)](https://www.dpi.nsw.gov.au/cold-water-pollution)

⁵ All-in-One Business Case

⁶ Cold Water Pollution Mitigation Asset Options Report (May 2019), WaterNSW

Table 2-6 – Expenditure and priority level by dam/valley

Dam	Valley	Priority level	Proposed expenditure (\$M)	Bill impact (%)	“Action status” from Options Rpt
Copeton	Gwydir	High	0.75	2.0%	“Mitigation to occur. Investigation by WaterNSW underway”
Blowering	Murrumbidgee	High	0.75	1.0%	“Mitigation to occur. Investigation required”
Keepit	Namoi	High	0.75	1.4%	“Mitigation to occur” “Investigation completed, mitigation works to commence in 2019 (after dam safety upgrade)”
Carcoar	Lachlan	Medium	0.6	0.8%	“No mitigation proposed” “benefit from construction of new offtake found to be minimal in comparison to cost”
Toonumbar	North Coast	Low	0.45	0.0%*	“No mitigation proposed”
Lostock	Hunter	Low	0.45	2.1%	“No mitigation proposed” “CWP not significant”

Source: Cold Water Pollution All in One Business Case (expenditure and bill impact) and Cold Water Pollution Mitigation Asset Options Report (priority level and action status)

Note *: In the business case, WaterNSW state that prices in North Coast are capped and they consider it likely the amounts would be CSO funded

Conclusion

We recognise the significance of cold water pollution concerns related to some of WaterNSW’s assets.

We consider that it is prudent and efficient to put in place improved monitoring around these dams to improve understanding of the issue and to provide a benchmark for potential future measures. We therefore recommend allowing the proposed \$1.0M capital expenditure.

We also consider that it is prudent and efficient to carry out further assessment of potential measures in the three “high priority” dams. It is not clear to us, however, that it is a good use of customers’ money to spend further money investigating options for low and moderate priority dams for which no mitigation measures are proposed. We therefore recommend allowing options assessment for the high priority dams only, this is \$1.875M of the options assessment (opex) requested by WaterNSW.

We have considered whether the options assessment activities should be treated as capex. If the mitigation measures proceed to construction preparatory activities are often classified as capex. However, WaterNSW has indicated that funding of the (likely significant) mitigation works is highly uncertain. It also seems likely that identification of robust, effective cost-beneficial solutions will be challenging. We therefore conclude it is not unreasonable to classify the activities as opex, **provided that the expenditure is not subsequently moved to capex/RAB⁷ if schemes proceed**, making it so that customers effectively pay for it twice.

We have also concluded that the proposed expenditure is additional to the activities undertaken in the current period as there appears to have been no significant cold water pollution opex in the current period.

Our recommended expenditure is summarised below. We have assumed that this expenditure will fall in the “Environmental Planning and Protection” activity area.

⁷ Regulatory Asset Base

Table 2-7 – Recommended Cold Water Pollution opex and capex by dam/valley

Dam	Valley	Recommendation	Recommended capex (\$M)	Recommended opex (\$M)
Copeton	Gwydir	Monitoring and options assessment	0.125	0.625
Blowering	Murrumbidgee		0.125	0.625
Keepit	Namoi		0.125	0.625
Carcoar	Lachlan	No mitigation proposed so monitoring (capex) only	0.250	0
Toonumbar	North Coast		0.125	0
Lostock	Hunter		0.250	0
TOTAL			1.000	1.875

Source: Atkins analysis

Note: Capex allocated between the sites based on the proportion of the eight actions summarised in Table 2-3 above.

2.10. Continuing efficiencies

These are subject to a separate response by IPART.

2.11. Catch-up efficiencies

In our Final Report we recommended applying a catch-up efficiency of 1.1 % p.a. to the Rural Valleys Determinations in addition to the continuing efficiency of 0.7% p.a.

We stated that we considered that, with appropriate management focus, it should be possible for WaterNSW to outperform this catch-up efficiency, based on the efficiencies achieved by Sydney Water (equivalent to 1.43% p.a. catch-up + 0.7% p.a. continuing efficiency) and our experience elsewhere.

In its response to the Draft Determination, WaterNSW requested that IPART revisit and reverse its approach to catch-up efficiencies. It identified three key areas of dispute:

1. Benchmarking

WaterNSW states:

It would appear inappropriate to benchmark WaterNSW with comparators like Sydney Water, a large-scale retail water utility, and Central Coast Council, a vertically-integrated medium-sized water utility, each with significant wastewater operations. Comparing WaterNSW with international companies is challenging due to differing operating, economic and regulatory environments that need to be specifically adjusted to provide a meaningful comparison.

AND:

For WaterNSW, the benchmarking analysis is conducted on the proportion of corporate and support expenditure and IT expenditure to total operating expenditure. This differs to other recent IPART decisions, where the benchmarking analysis is conducted on a total operating expenditure per property/customer basis, with similar water utilities.

We have already addressed most of the concerns raised by WaterNSW in our Final Report saying:

We do not agree that detailed benchmarking is a prerequisite to establishing the level of catch-up efficiency which can be achieved. We consider that empirical evidence as to the level of catch-up efficiencies achieved by utilities at a similar point in the efficiency journey has as much, and in some cases more, value as quantitative benchmarking. Whilst we recognise that Hunter Water and Sydney Water are different to WaterNSW we consider that there are enough similarities for them to be informative comparators. Nonetheless, we have erred on the side of caution by recommending 1.8% p.a. combined efficiency rather than 2.13% p.a.

We would also add that we consider that the concern about inconsistency in benchmarking is not relevant in this case, as we have not relied on unit cost benchmarking. Instead we have relied on the scale of opex efficiency gains achieved for utilities at a similar stage of efficiency maturity.

Exclusion of water monitoring and “uncontrollable” costs

We have applied catch-up efficiencies to total opex. WaterNSW states:

The consultant’s top down efficiencies have been applied to the Rural Valleys hydrometric monitoring activity. We consider that these reductions should be reconsidered by IPART.

Water Monitoring previously carried out by the Department are now delivered under a revised operating model and team structure, including water monitoring functions being carried out by one team at WaterNSW since 2017. Together with the water monitoring services provided under the Greater Sydney determination, this has enabled WaterNSW to achieve significant efficiencies in water monitoring operating expenditure.

These significant efficiencies have been recognised by the IPART WAMC consultants, Cardno

WaterNSW then provides excerpts from Cardno’s report

Water NSW also disputes the inclusion of a number of costs which it considers are uncontrollable, stating:

We incur a number of uncontrollable operating costs, including, compulsory Treasury Managed Fund insurance contributions for our infrastructure assets, land tax payments payable to the NSW Revenue Office

To the extent that these costs are outside of our control and/or are required by law, they should be excluded from the base operating expenditure to which IPART applies its catch-up efficiency adjustments.

The response gives details of expenditure which WaterNSW considers is uncontrollable, notably the dam safety levy, insurances, property rent and council rates, and land taxes.

All utilities face a number of costs which are required by law and/or appear to be uncontrollable.

The catch-up efficiency we have recommended is consistent with the level of efficiency achieved by Hunter Water in the 2009 Determination period as summarised in Section 5 of our Final Report. This efficiency (combined 1.8%p.a.) was applied to all of Hunter Water’s operating expenditure so is consistent with the approach taking in this review.

In the past, we have sometimes recommended that catch-up efficiencies are applied to controllable costs only. For example, we have previously excluded bulk water costs from the efficiencies applied to Sydney Water’s opex. However, our view is that this should only apply where this a significant and exceptional circumstance. In the case of Sydney Water, for example, 38% of their opex at the 2012 review related to bulk water charges which were set through a regulatory process to achieve efficient cost recovery.

We do not consider that the costs which WaterNSW has identified are sufficiently materially different to other utilities’ cost bases to merit exclusion, especially as WaterNSW clearly has a degree of influence over the level of many of the costs (e.g. property rent and insurance).

Second round of catch-up

WaterNSW’s response to the Draft Determination expresses concerns that

programs subject to specific adjustments on the basis of efficiency appear to have been subject to a ‘second round’ of catch-up efficiency adjustments

...As these programs have already been specifically ‘adjusted’ once to ensure efficiency, it is both unreasonable and unnecessary to have them adjusted again efficiency, using top-down catch-up efficiency adjustments. To do so, raises a high risk of double-counting efficiency adjustments.

To avoid any potential for double-counting, we suggest that IPART remove both the \$26.9 million of uncontrollable costs when making any top-down catch-up efficiency adjustments.

It provides a table of the specific adjustments:

Table 2-8 – Specific adjustments WaterNSW identify as being double-counted

	2020-21	2021-22	2022-23	2023-24	Total
Labour Cost	-0.9	-1.3	-0.3	-1.4	-3.9
Land Tax	0.0	-0.6	-0.6	-0.6	-1.8
Transformational Strategy	0.0	-0.5	-0.5	-0.5	-1.5
Reallocation of Regulatory Resources	0.4	-0.4	-0.4	-0.4	-0.7
Environmental Opex	-0.5	-1.2	-1.7	-2.2	-5.5

Source: WaterNSW Response to Draft Determination

Our approach to efficiency assessment is summarised in our Final Report. The adjustments listed above all fit into the category of ‘scope adjustments’.

In this report, we have recommended removing the labour cost and EPP adjustments as discussed above. It is notable that the adjustments listed by WaterNSW are not reductions in opex, but rather they are either adjustments applied to WaterNSW’s requests for *increased* expenditure (e.g. transformational strategy) because we have found that the increases are not justified, or minor *reallocations* of requested *additional* spend between Determinations (regulatory resources). It is therefore clear that there is no double-counting of adjustments.

Conclusion

WaterNSW’s responses have not provided any information which changes our recommended catch-up efficiency challenge.

2.12. Revised scope adjustments

As set out above, we have recommended amending a number of the scope adjustments applied to non-overhead opex. The revised scope adjustments are summarised below.

Table 2-9 Scope adjustments applied

ref	Adjustment	Reason	Total opex effect over 21 Determination	How allocated to valleys	How allocated to activity lines	How affected overheads
1	Accept additional Regulatory FTEs but adjust the impact to reflect allocation of expenditure to different Determinations	Set out in Corporate cost allocation section 5. Note that we are recommending \$1.4M be allocated to RV compared to \$2.1M requested because the cost will be shared between Determinations but we assume it will start in FY22 (rather than FY23 in the submission).	-\$0.7M	Unwind allocation in Document 215		No change as part of October 2020 additional opex (no additional OH)
2	Remove land tax increases	Justification challenge set out in Section 2.6	-\$1.8M	Unwind allocation in Document 215		
3	Remove Long-term Transformational Strategy	Justification challenge set out in Section 2.5	-\$1.5M	Unwind allocation in Document 215		
4	Cold Water Pollution Additional Opex	Set out in Section 2.9	+\$1.9M	Allocated to valleys based on Table 2-7. Assumed to be in "Environmental Planning and Protection" activity area		No change as part of December 2020 additional opex (no additional OH)
5	Impact of method change to GS costs	The RV component of the \$2M p.a. Customer and Community overheads adjustment set out in Table 8-17 of our Final Report	-\$1.2M	Allocated between valleys and activities in proportion to direct opex after Adjustments 1-4		Purely overhead
6	Change to allocation of Corporate Overheads between Determinations and Valleys	Explained in Section 5.	-\$3.7M assuming it is implemented in FY24 (Note the adjustment would be - \$4.4M if implemented from FY22)	Allocated between valleys and activities in proportion to direct opex after Adjustments 1-4		Purely overhead

No changes have been made to the recommended continuing and catch-up efficiencies in percentage terms. However, the quantum of the efficiency has changed as a result of the amended scope adjustments.

2.13. Summary of efficient operating expenditure

We summarise our recommended efficient expenditure in Table 3-3 below. This is further broken down by Valley in Appendix.

Table 2-10 Summary of efficient operating expenditure

WATERNSW RURAL BULK WATER PROPOSAL - OPEX - Summary Table- All Valleys											
(\$M 2020/21) year ending June	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
Border	1.46	1.24	1.29	1.23	1.34	1.50	1.64	1.60	1.69	1.66	1.62
Gwydir	4.15	3.58	3.69	3.82	4.77	5.72	4.91	5.17	5.61	6.04	5.90
Namoi	4.41	3.90	4.18	4.59	4.72	5.54	5.71	5.16	5.75	6.02	5.78
Peel	1.18	1.05	1.09	1.24	1.13	1.74	1.37	1.30	1.40	1.38	1.35
Lachlan	5.74	5.00	5.35	5.69	6.29	7.81	7.29	7.55	8.63	8.28	8.04
Macquarie	5.42	4.83	5.48	4.89	6.17	7.30	6.50	6.30	7.05	7.62	7.26
Murray	3.65	3.41	3.05	3.79	3.66	5.12	5.10	4.23	4.60	4.44	4.27
Murrumbidgee	8.40	7.27	8.45	8.91	8.81	10.87	9.77	8.91	9.58	9.50	9.22
Lowbidgee	0.59	0.60	0.66	0.54	0.43	0.55	0.90	0.93	0.93	0.96	0.95
North Coast	0.77	0.62	1.03	1.02	0.92	1.18	1.09	1.04	1.13	1.12	1.10
Hunter	4.59	3.69	4.78	4.46	4.42	5.25	5.20	4.85	5.44	5.31	5.10
South Coast	0.74	0.70	0.62	0.75	0.78	0.83	1.11	1.05	1.17	1.11	1.08
Fish River Water Scheme	4.03	3.08	3.32	5.21	5.47	5.23	5.11	5.27	5.39	5.49	5.27
Total Operating Expenditure	45.13	38.97	42.99	46.14	48.93	58.64	55.69	53.39	58.37	58.91	56.95
Atkins/Cardno recommended scope adjustments											
Border	0.00	0.00	0.00	0.00	0.00	0.00	0.00	-0.09	-0.10	-0.11	-0.07
Gwydir	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.10	-0.13	-0.96	-0.88
Namoi	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.53	0.09	-0.59	-0.40
Peel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02	-0.02	-0.03	0.00
Lachlan	0.00	0.00	0.00	0.00	0.00	0.00	0.00	-0.73	-0.48	-1.26	-1.07
Macquarie	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.12	-0.17	-0.76	-0.60
Murray	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03	-0.06	-0.13	-0.01
Murrumbidgee	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.65	0.32	0.08	0.32
Lowbidgee	0.00	0.00	0.00	0.00	0.00	0.00	0.00	-0.15	-0.14	-0.16	-0.14
North Coast	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.04	-0.01	-0.02	0.00
Hunter	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.09	-0.15	-0.19	-0.04
South Coast	0.00	0.00	0.00	0.00	0.00	0.00	0.00	-0.08	-0.09	-0.11	-0.09
Fish River Water Scheme	0.00	0.00	0.00	0.00	0.00	0.00	0.00	-0.04	-0.04	-0.11	0.12
Sub Total adjustments	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.49	-0.97	-4.35	-2.88
Atkins/Cardno recommended efficiency targets											
Continuing Efficiency (%)								0.70%	1.40%	2.09%	2.77%
Continuing Efficiency (\$M)								-0.38	-0.80	-1.14	-1.50
Catch-up efficiency (%)								1.10%	2.19%	3.26%	4.33%
Catch-up efficiency (\$M)								-0.59	-1.24	-1.74	-2.28
ATKINS/CARDNO ASSESSMENT OF EFFICIENT EXPENDITURE											
(\$M 2020/21) year ending June	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
Border	1.46	1.24	1.29	1.23	1.34	1.50	1.64	1.48	1.54	1.46	1.44
Gwydir	4.15	3.58	3.69	3.82	4.77	5.72	4.91	5.17	5.28	4.81	4.67
Namoi	4.41	3.90	4.18	4.59	4.72	5.54	5.71	5.59	5.64	5.15	5.00
Peel	1.18	1.05	1.09	1.24	1.13	1.74	1.37	1.30	1.34	1.28	1.25
Lachlan	5.74	5.00	5.35	5.69	6.29	7.81	7.29	6.70	7.86	6.65	6.48
Macquarie	5.42	4.83	5.48	4.89	6.17	7.30	6.50	6.31	6.63	6.50	6.19
Murray	3.65	3.41	3.05	3.79	3.66	5.12	5.10	4.19	4.37	4.09	3.96
Murrumbidgee	8.40	7.27	8.45	8.91	8.81	10.87	9.77	9.39	9.55	9.07	8.88
Lowbidgee	0.59	0.60	0.66	0.54	0.43	0.55	0.90	0.77	0.76	0.76	0.75
North Coast	0.77	0.62	1.03	1.02	0.92	1.18	1.09	1.06	1.09	1.03	1.02
Hunter	4.59	3.69	4.78	4.46	4.42	5.25	5.20	4.86	5.11	4.84	4.71
South Coast	0.74	0.70	0.62	0.75	0.78	0.83	1.11	0.95	1.04	0.94	0.91
Fish River Water Scheme	4.03	3.08	3.32	5.21	5.47	5.23	5.11	5.14	5.16	5.09	5.02
Total Efficient Expenditure	45.13	38.97	42.99	46.14	48.93	58.64	55.69	52.91	55.36	51.68	50.30

Note: this and the tables in Appendix assumes the corporate cost allocation change is effective from 2022 onwards

3. Capital expenditure

3.1. Revised capital expenditure recommendations

Below we provide our recommendations in response to WaterNSW's comments on the capital expenditure elements of the Draft Determination.

3.1.1. Fish passage offset schemes

WaterNSW in its October 2020 submission proposed expenditure of \$71.7m on the Dam Safety Upgrade (DSU) fish passage offset schemes in the future determination period. WaterNSW identified in its October 2020 submission two pilot fishway sites to be constructed at Gunidgera Weir (Namoi Valley) and Tyreel Weir Fishway (Gwydir valley) with the remaining fishway sites to be constructed once the new concept design fishways are commissioned.

In our Final Report in February 2021 we recommended a proposed expenditure reduction of \$56.4m for WaterNSW to complete two pilot schemes and progress the business cases and detailed design of the remaining nine schemes.

In its response to IPART's Draft Determination WaterNSW has indicated that it has undertaken a review of the schedule for the fishway program. WaterNSW has proposed a revised expenditure of \$43.0m over the 2021 determination period, for 3 pilot scheme fishways leading to 4 more constructed in that period with the remaining 4 completed in the 2025 determination period. WaterNSW has not yet developed a Business Case for this expenditure. WaterNSW requested that IPART consider its revised schedule in its Final Determination. We held a discussion with WaterNSW on the proposed expenditure on 19 April 2021.

WaterNSW has indicated that it has consulted with DPI Fisheries and has proposed an alternative expenditure profile and schedule for the program. WaterNSW propose construction of 7 fishways within the future determination period and complete the design phase and final business cases for the remaining 4 fishways. There are two types of design that WaterNSW is proposing:

- i) JFCS gravity channel fishway which is a novel design; and
- ii) In-lock fishway which is a more traditional design

WaterNSW have provided an alternative sequencing of the projects from that which they proposed in their response to our Draft Report. As a result WaterNSW propose the below profile of expenditure for the fishway schemes by valley which proposes \$43.0m in the 2021 determination period and \$72.1m over the whole program as shown in Table 3-1.

Table 3-1 – WaterNSW revised fish pass offset expenditure profile by valley

Project	Project Description	FY21	FY22	FY23	FY24	FY25	FY26	FY27	Total FY22-25	Total FY21-27
GW280001.15	CPTN Fish Passage Offsets									
LA280007.15	WYGL Fish Passage Offset									
MA280002.15	MAQ Fish Passage Offset									
NO280001.13	KEEP Fish Passage Offsets									
Total									43,038,467	72,153,771

We consider that the proposed reprofiling of expenditure is more appropriate than the WaterNSW original proposal and is a move towards a staged approach to ensure delivery of these projects at an efficient cost. WaterNSW provided us with a high level breakdown of proposed expenditure by scheme. We have reviewed

the proposed schedule and expenditure profile for the program and consider that there are opportunities for WaterNSW to further leverage lessons from one project into the next, particularly for the JFCS fishways which are a novel design, by taking a slightly more staggered approach to the program than it has now proposed. This will also provide WaterNSW opportunity to build in efficiencies later in the program and allows for potential delays should the ground conditions at the fishway sites lead to a change in construction type, reverting from the JCFS model to the traditional gravity channel with cast in-situ concrete. We make comments against each scheme and our recommended expenditure for the FY22 to FY25 period in Table 3-2.

Table 3-2 – WaterNSW revised fish pass offset expenditure profile by scheme and Atkins recommended changes

Project Description	WaterNSW revised expenditure proposal									Atkins comments and recommendations		
	FY21	FY22	FY23	FY24	FY25	FY26	FY27	Total FY22-25	Total FY21-27	Comments	Total FY22-25	Total FY21-27
Tyreel Weir				■ ■	■	■		■	■	Maintain expenditure as proposed by WaterNSW	■	■
Tyreel Regulator				■ ■	■	■		■	■	Defer the significant expenditure into the next determination period to ensure lessons learned and efficiencies can be built into the construction	■	■
Tareelaro Weir				■ ■	■	■	■	■	■	Maintain expenditure as proposed by WaterNSW	■	■
Booloroo Weir				■ ■	■	■		■	■	Defer the significant expenditure into the next determination period to ensure lessons learned and efficiencies can be built into the construction	■	■
Gwydir Fish Passage Offsets Subtotal				■ ■	■ ■	■	■	■	■		■	■
Lake Brewster Diversion Weir				■ ■	■	■ ■	■	■	■	Maintain expenditure as proposed by WaterNSW	■	■
Booberoi Weir				■ ■	■	■	■	■	■	Maintain expenditure as proposed by WaterNSW	■	■
Lake Cargelligo Outlet Regulator		■ ■	■ ■	■ ■				■	■	Defer expenditure by one year so that the pilots are staggered and early lessons learned can be incorporated into the future program	■	■
Lachlan Fish Passage Offsets Subtotal		■ ■	■ ■	■ ■	■	■ ■	■	■	■		■	■

Project Description	WaterNSW revised expenditure proposal									Atkins comments and recommendations		
	FY21	FY22	FY23	FY24	FY25	FY26	FY27	Total FY22-25	Total FY21-27	Comments	Total FY22-25	Total FY21-27
Gin Gin Weir				■	■	■	■	■	■	Maintain expenditure as proposed by WaterNSW	■	■
Marebone Break Weir		■	■	■				■	■	Maintain expenditure as proposed by WaterNSW	■	■
Dubbo North Weir				■	■	■		■	■	Maintain expenditure as proposed by WaterNSW	■	■
Macquarie Fish Passage Offsets Subtotal		■	■	■	■	■	■	■	■		■	■
Gunidgera Weir	■	■	■	■						Maintain expenditure as proposed by WaterNSW	■	■
Namoi Fish Passage Offsets Subtotal	■	■	■	■				■	■		■	■
Grand Total								\$43.0 M	\$72.2 M		30.90	72.20

Table 3-3 – Atkins recommended fish pass expenditure profile by valley

Valley	Project name in SIR	FY21	FY22	FY23	FY24	FY25	FY26	FY27	FY22 to FY25	FY21 to FY27
WNSW Proposed Expenditure (as per response to IPART's Draft Determination Report)										
Gwydir	CPTN Fish Passage Offsets									
Namoi	KEEP Fish Passage Offsets									
Lachlan	WYGL Fish Passage Offsets									
Macquarie	BNDG Fish Passage Offsets									
Total Fish Passage Offsets		82,088	6,596,202	12,790,636	5,689,021	17,962,607	26,243,622	2,789,594	43,038,466	72,153,770
Atkins recommended adjustments to WaterNSW Original Submission										
Gwydir	CPTN Fish Passage Offsets	-								
Namoi	KEEP Fish Passage Offsets	-								
Lachlan	WYGL Fish Passage Offsets	-								
Macquarie	BNDG Fish Passage Offsets	-								
Total Fish Passage Offsets		- 409,447	2,668,119	6,643,432	- 24,892,754	- 25,282,280	-	-	- 40,863,483	-
Atkins recommended adjustments to WaterNSW April 21 submission to IPART										
Gwydir	CPTN Fish Passage Offsets	-								
Namoi	KEEP Fish Passage Offsets	-								
Lachlan	WYGL Fish Passage Offsets	-								
Macquarie	BNDG Fish Passage Offsets	-								
Total Fish Passage Offsets		-	- 744,157	- 2,907,800	2,274,851	- 10,862,607	11,856,378	383,336	- 12,239,713	1
Atkins recommended expenditure										
Gwydir	CPTN Fish Passage Offsets	-								
Namoi	KEEP Fish Passage Offsets									
Lachlan	WYGL Fish Passage Offsets									
Macquarie	BNDG Fish Passage Offsets									
Total Fish Passage Offsets		82,088	5,852,045	9,882,836	7,963,872	7,100,000	38,100,000	3,172,930	30,798,753	72,153,771

*WaterNSW provided us with a high level breakdown of expenditure by scheme so the numbers we have used differ slightly due to rounding, we have net off the difference in FY27 so that the expenditure for the full program aligns.

In Table 3-3 above our recommended expenditure adjustments are presented both compared to WaterNSW original submission in October 2020, for IPART's price modelling purposes and against WaterNSW revised proposal submitted to IPART in response to the Draft Determination. As a result there is a recommended adjustment in FY21 in the current period which is based on the difference between WaterNSW October 2020 submission and its proposed revised schedule.

Due to our recommended expenditure profile we have in parallel revised our recommended output measures for the Fish Passage offset schemes which we discuss in Section 4 below.

3.1.2. Cold Water Pollution

Further to our review of the cold water pollution business case discussed in Section 2.9 above we are reallocating \$1m from operating expenditure to capital expenditure. All the Cold Water Pollution capital expenditure is planned for FY22 and FY23 split 67% and 33% respectively. Although WaterNSW have not formally identified this capital expenditure within a certain activity we recommend that this all sits within the Environmental Planning & Protection activity as per the operational expenditure.

Table 3-4 – Atkins recommended cold water pollution capital expenditure profile by valley

Cold Water Pollution project and valley Recommended capex (\$M)	FY22	FY23	FY24	FY25	FY22 to FY25
GW - Cold Water Pollution	0.08	0.04	0.00	0.00	0.125
MB - Cold Water Pollution	0.08	0.04	0.00	0.00	0.125
NO - Cold Water Pollution	0.08	0.04	0.00	0.00	0.125
LA - Cold Water Pollution	0.17	0.08	0.00	0.00	0.25
NC - Cold Water Pollution	0.08	0.04	0.00	0.00	0.125
HU - Cold Water Pollution	0.17	0.08	0.00	0.00	0.25
TOTAL					1

3.1.3. WAVE project capitalised overheads

We discuss this in Section 5.8 below.

3.1.4. Murrumbidgee renewals provision

In its response to IPART's Draft Determination WaterNSW stated that

A recent internal review of the Murrumbidgee capital program called into question the prudence of WaterNSW to undertaking this scale of works on a 'legacy' fishway at Yanco Weir. There are also concerns that a future Yanco Sustainable Diversion Limit Adjustment Mechanism (SDLAM) project may render the works obsolete.

During recent customer engagement forums, key members of the Murrumbidgee CAG expressed similar concerns about the project's inclusion.

*It is considered prudent to request the project is removed from our FY22-FY25 Pricing Submission, this change will result in a revised renewal and replacement provision profile for the Murrumbidgee as indicated below (reduction of **\$3.92m**).*

Following some checks on the base data provided to us by WaterNSW for the Yanco Weir project we identified that the reduction (before any efficiency assumptions) should be \$4.43m. We therefore recommend removing this expenditure as a pre-efficiency scope adjustment which was all planned to be incurred in FY25.

3.1.5. Lake Cargelligo adjustment

WaterNSW have acknowledged this adjustment. To reiterate that the latest version of our Final Report mentioned that,

The initial cost estimate to undertake the dam safety upgrade works at Lake Cargelligo was approximately \$15 million (as provided in the submission SIR capex table). However, the Preliminary Business Case that followed included estimates that were informed by the recent dam safety risk assessment and operational risk assessment. These resulted in a refinement of the options for the best and most cost-efficient solution to deliver the stated objectives. The refined solution is now estimated to cost \$13.7 million, and so our recommended expenditure allowance aligns with this \$13.7 million.

We have not made any changes to this recommendation.

3.1.6. Additional capital expenditure for Chaffey Dam environmental offset

In its response to IPART's Draft Determination WaterNSW state that "WaterNSW is proposing to spend **\$1.5 million** in capital expenditure over the 2021 Determination period to meet the environmental approvals related to the Chaffey Dam Upgrade and Augmentation project, which was completed in 2016."

WaterNSW indicate that the total investment for the whole project was \$50million which was part funded by the NSW Government, Commonwealth Government's National Water Security Plan for Cities and Towns and Tamworth Regional Council. Part of the expenditure on Chaffey Dam augmentation (net of the grants) entered the Government RAB under the pre 1997 dam safety activity. WaterNSW is proposing the consistent with the precedent, that the additional expenditure enter the Government RAB under the pre 1997 dam safety activity for FY22.

Given that this is expenditure appears to be directly attributable to the construction of the Chaffey Dam we recommend that this is included within the pre 1997 dam safety compliance expenditure activity for the current determination period.

3.1.7. Reprofiting of WAMC corporate capital expenditure to other determinations

In Section 2.4 of its response to IPART's Draft Determination WaterNSW has responded regarding the proposed reprofiling of corporate capex in the WAMC determination in current period and has indicated that there is an error of omission within our Final Report which would impact on the Rural Valley's determination. We have consulted on this with IPART and its consultants on the WAMC review and are of the understanding that this specific matter will be dealt with separately by IPART as part of the expenditure review for WAMC and as such has no impact on our findings our recommendations for the Rural Valleys expenditure review.

3.1.8. Capex catch up efficiency

'Catch-up' inefficiency refers to the fact that, because water companies are not operating in a competitive market, they are not compelled, through competitive forces, to be efficient. As such, they may be operating 'behind' the efficiency frontier (either carrying higher costs and/or delivering worse outcomes or performance than would arise in a competitive market). In our Final Report to IPART in February 2021 we commented on the following four areas which we identified that WaterNSW should be able to make material improvement to its processes to move towards the efficiency frontier over the 2021 determination period. These are:

- (a) Improvements to capital program development, optimisation and prioritisation;
- (b) Improvements to value engineering;
- (c) Improvements in cost estimating and the management of contingencies, and;
- (d) The impact of new procurement processes and the likely savings from more effective program management.

WaterNSW have responded to IPART's Draft Determination on our recommended capital catch-up efficiencies that in our recommendation we have

"not taken into account progress on the development of a number of our capital processes and the oversight our Board has of the capital program. WaterNSW considers that IPART should give further consideration to our position as a relatively young organisation, and questions whether the significant catch-up efficiencies that have been proposed are achievable".

In relation to its business and capital asset management processes WaterNSW comments that

"It is not unreasonable to expect that our capital and asset management processes may be at an early stage of maturity and particularly so, when compared to processes at more well-established water utilities. A priori, this should not provide justification for catch-up efficiency reductions to be applied to our programs"

We concur that the fact that WaterNSW is at an early stage of maturity is not reason alone to justify the recommended catch up efficiencies. However WaterNSW is starting to employ new initiatives and ways of working which ought to have projected benefits and efficiency savings and that are demonstrably factored into its capital expenditure proposals. WaterNSW does not appear to demonstrably challenge its program internally and in the round and the benefits are not demonstrably linked to its expenditure proposals. Our recommendations on catch-up efficiencies does this. Below we comment and respond to WaterNSW representations on our recommended capital catch up efficiency levers.

1) Capital program development, optimisation and prioritisation

WaterNSW comments that *"The analysis of the requirement for additional efficiencies for Capital Program Development does not appear to consider that there is a substantial overlap between the concept as described in the draft report and WaterNSW's own efficiency target categories of 'Engineering' and 'Mobilisation and Packaging'. WaterNSW considers that the targets it has already set in these areas are achievable."*

As mentioned in our Final Report WaterNSW efficiency targets and calculations do not make any assumptions related to efficiency gains to WaterNSW's own internal costs for each project, based on the move to the new procurement and delivery model or any additional improvements in its overall asset management processes, in particular linking to asset health and performance measures driven through the implementation of its asset class strategies. There is little evidence of any renewals program level efficiency challenge so we consider there is

scope to achieve efficiencies beyond those targets WaterNSW has set itself. We have not changed our recommendation from our Final Report.

2) Value Engineering

WaterNSW comments that *“the draft report appears not to provide any evidence that this efficiency target is warranted, apart from noting WaterNSW’s history of challenging engineering consultant’s estimates. Assuming that the draft report is referring to the example of the Avon Deep Water Access provided during the Greater Sydney Review, we note that this involved ensuring alignment with WaterNSW’s (lower) costing methodology. Given that WaterNSW’s forecasts are based upon the same methodology, WaterNSW would question the applicability of this efficiency target.”*

As mentioned in our Final Report we consider that 0.5% p.a. for capital is achievable throughout the future determination period if WaterNSW moves towards incorporating value engineering processes more readily throughout its capital project planning, particularly for large projects. We have not changed our recommendation from our Final Report.

3) Cost estimating and the management of contingencies

WaterNSW comments that

“WaterNSW recognises the need for mature processes to efficiently manage our asset portfolio. We believe we have demonstrated our commitment through the considerable improvement and maturity of the estimating methodology since the previous review. WaterNSW has an asset base dominated by bespoke on-river structures, where project risks are significant.

As such, WaterNSW considers any risk being borne through the current maturity of bottom-up estimates to be almost entirely toward under-estimating of site-specific conditions and risks. This observation is consistent with almost all industry commentary that consistently shows estimates typically increase throughout the project lifecycle. Please note Figure 2 in the Response Doc from an Advisian study we commissioned in 2017, which analysed industry data on project costs for projects similar to those in the rural portfolio.

We suggest that unless Atkins can provide any evidence in industry data to support the findings, that this efficiency adjustment be removed in its entirety.”

As mentioned in our Final Report we understand that a project controls improvement initiative is currently underway and WaterNSW is considering revised approaches to contingency management at the program level. We do not see any evidence that the project controls initiative which is aimed to manage risk and contingency at the portfolio level is borne out in WaterNSW expenditure proposals. We have not changed our recommendation from our Final Report.

4) Procurement

WaterNSW comments that

“The procurement efficiency as described in the draft report appears to overlap with all efficiency target categories set by WaterNSW (Engineering, Mobilisation and Packaging, Bulk Purchasing and Local Content).

As discussed during the review process, these efficiencies were set based upon each project type and applied against the relevant level of the work breakdown structure for each project. The consultant does not appear to recognise this or provide any analysis detailing why the tailored efficiencies set at the project level are inadequate.”

In our Final Report we acknowledged that it is difficult for WaterNSW to quantify the efficiencies that might be able to be delivered through its new delivery model. Efficiencies will depend of mix of work in the valleys. It is noted that WaterNSW has factored in some efficiencies into ‘renewals provisions’ line items [via its (Engineering, Mobilisation and Packaging, Bulk Purchasing and Local Content) bottom up approach, but we have not been provided evidence that these have been factored into the wider capital program or indeed there has been no top down scrutiny or internal challenge of its proposed expenditure in the SIR submissions. We have not changed

our recommendation from our Final Report where we recommended an additional procurement efficiency adjustment equal to 3% from 2024 onwards.

Overall Efficiency Recommendation

Our assessment of the level of continuing and catch-up efficiencies achievable in the future determination period is shown in Table 3-5 below. This has not changed from our Final Report.

Table 3-5 Future determination period – Proposed Capital Efficiencies (Source: Atkins/Cardno analysis)

Cumulative efficiency challenge (%)				
	2022	2023	2024	2025
Continuing efficiency at the Frontier	0.70%	1.40%	2.09%	2.77%
Catch-up: capital program development, optimisation and prioritisation	0.11%	0.22%	0.33%	0.44%
Catch-up: value engineering	0.50%	1.00%	1.50%	2.00%
Catch-up: cost-estimating	0.50%	1.00%	2.00%	2.00%
Catch-up: procurement	1.00%	2.00%	3.00%	3.00%
Catch-up efficiency	2.11%	4.22%	6.83%	7.44%
Total efficiency	2.81%	5.61%	8.91%	10.21%

3.2. Continuing efficiency

These are subject to a separate response by IPART.

3.3. Efficient capital expenditure in the 2017 determination period

Table 3-6 Summary of efficient capital expenditure in the 2017 determination period

WATERNSW RURAL BULK WATER PROPOSAL - CAPEX -				
(\$M 2020/21) year ending June	2018	2019	2020	2021
Water Delivery & Other Operations	0.03	10.99	0.90	0.90
Flood Operations	0.00	0.00	0.00	0.06
Hydrometric Monitoring	0.03	0.17	0.20	0.00
Water Quality Monitoring	0.00	0.00	0.00	0.00
Corrective Maintenance	1.51	0.33	-1.68	0.18
Routine Maintenance	0.00	0.00	0.08	0.50
Asset Management Planning	4.50	1.09	-5.28	1.10
Dam Safety Compliance	0.00	0.00	0.00	15.55
Environmental Planning & Protection	0.15	0.09	2.34	0.49
Corporate Systems	6.60	0.26	22.21	17.01
Drought projects (3 dams)	0.00	0.00	17.95	178.31
Drought projects (other)	0.00	0.00	34.27	4.46
Renewals and Replacement	15.67	16.69	26.91	44.58
Dam safety compliance on pre 1997 capital projects	10.68	13.99	18.29	0.00
Structural and other enhancements	0.33	1.60	0.53	0.23
Customer support	0.00	0.00	0.00	0.00
Internal corporate projects	0.00	0.00	0.09	0.00
Total capex proposed by WNSW	39.49	45.21	116.82	263.37
Atkins/Cardno recommended adjustments for specific programs or projects				
PDMP reallocation from Corporate			-2.39	-0.44
PDMP reallocation to Drought projects (3 dams)			2.39	0.44
Water Delivery & Other Operations - Corporate Systems FY20 miscoding			1.08	
Flood operations - Corporate Systems FY20 miscoding			0.15	
Hydrometric monitoring - Corporate Systems FY20 miscoding			1.38	
Asset management planning - Corporate Systems FY20 miscoding			0.04	
Dam safety compliance pre1997 - Corporate Systems FY20 miscoding			0.54	
Environmental Planning & Protection - Corporate Systems FY20 miscoding			0.14	
Renewals and Replacement - Corporate Systems FY20 miscoding			0.66	
Corporate Systems - Corporate Systems FY20 miscoding			-4.00	
Fish Passage Offsets				-0.41
Copeton Spillway Investigations reallocation from dam safety compliance				-0.59
Copeton Spillway Investigations reallocation to <1997 dam safety compliance				0.59
Sub Total adjustments	0.00	0.00	0.00	-0.41
ATKINS/CARDNO ASSESSMENT OF EFFICIENT EXPENDITURE				
(\$M 2020/21) year ending June	2018	2019	2020	2021
Water Delivery & Other Operations	0.03	10.99	1.99	0.90
Flood Operations	0.00	0.00	0.15	0.06
Hydrometric Monitoring	0.03	0.17	1.58	0.00
Water Quality Monitoring	0.00	0.00	0.00	0.00
Corrective Maintenance	1.51	0.33	-1.68	0.18
Routine Maintenance	0.00	0.00	0.08	0.50
Asset Management Planning	4.50	1.09	-5.24	1.10
Dam Safety Compliance	0.00	0.00	0.00	14.97
Environmental Planning & Protection	0.15	0.09	2.48	0.08
Corporate Systems	6.60	0.26	16.32	16.66
Drought projects (3 dams)	0.00	0.00	19.85	178.66
Drought projects (other)	0.00	0.00	34.27	4.46
Renewals and Replacement	15.67	16.69	27.58	44.58
Dam safety compliance on pre 1997 capital projects	10.68	13.99	18.83	0.59
Structural and other enhancements	0.33	1.60	0.53	0.23
Customer support	0.00	0.00	0.00	0.00
Internal corporate projects	0.00	0.00	0.09	0.00
Total Efficient Expenditure- recommended by Atkins	39.49	45.21	116.82	262.96
<i>User Share Capital Expenditure</i>	<i>27.16</i>	<i>29.48</i>	<i>39.65</i>	<i>67.24</i>
<i>Government Share Capital Expenditure</i>	<i>12.32</i>	<i>15.73</i>	<i>77.18</i>	<i>195.72</i>

3.4. Efficient capital expenditure in the 2021 determination period

Table 3-7 provides our recommended expenditure for the future determination period. We breakdown this expenditure by valley in the Appendix A.

Table 3-7 Summary of efficient capital expenditure in the 2021 determination period

WATERNSW RURAL BULK WATER PROPOSAL - CAPEX -						
(\$M 2020/21) year ending June	2022	2023	2024	2025	2023-25 Total	2022-25 Total
Water Delivery & Other Operations	2.38	1.89	0.00	0.00	1.89	4.28
Flood Operations	0.00	0.00	0.00	0.00	0.00	0.00
Hydrometric Monitoring	0.00	0.00	0.00	0.00	0.00	0.00
Water Quality Monitoring	0.00	0.00	0.00	0.00	0.00	0.00
Corrective Maintenance	1.07	0.67	0.00	0.00	0.67	1.74
Routine Maintenance	0.23	0.24	0.24	0.32	0.79	1.02
Asset Management Planning	1.22	1.04	1.33	1.19	3.56	4.78
Dam Safety Compliance	12.30	14.80	6.98	4.86	26.64	38.94
Environmental Planning & Protection	3.31	3.24	32.86	32.38	68.48	71.79
Corporate Systems	7.87	6.97	12.17	8.75	27.89	35.77
Drought projects (3 dams)	93.06	2.31	2.30	2.28	6.89	99.95
Drought projects (other)	1.43	0.41	0.40	0.40	1.21	2.64
Renewals and Replacement	19.80	35.48	26.61	20.17	82.25	102.05
Dam safety compliance on pre 1997 capital projects	0.00	0.00	0.00	0.00	0.00	0.00
Structural and other enhancements	0.00	0.00	0.00	0.00	0.00	0.00
Customer support	0.00	0.00	0.00	0.00	0.00	0.00
Internal corporate projects	0.00	0.00	0.00	0.00	0.00	0.00
Total capex proposed by WNSW	142.69	67.05	82.88	70.35	220.28	362.96
Atkins/Cardno recommended adjustments for specific programs or projects						
Fish Passage Offsets	2.67	6.64	-24.89	-25.28	-43.53	-40.86
Lake Cargelligo Embankment upgrade reallocation from Renewal and Replacement		-7.72			-7.72	-7.72
Lake Cargelligo Embankment upgrade reallocation to Dam Safety Compliance		7.72			7.72	7.72
Lake Cargelligo Embankment upgrade - business case alignment		-1.28			-1.28	-1.28
Corporate Scope and Reallocation	0.60	0.60	0.60	0.60	1.80	2.40
Copeton Spillway Investigations reallocation from dam safety compliance	-3.58	-1.84			-1.84	-5.43
Copeton Spillway Investigations reallocation to <1997 dam safety compli	3.58	1.84			1.84	5.43
Cold Water Pollution	0.67	0.33	0.00	0.00	0.33	1.00
PE - Chaffey Dam Additional pre 1997 dam safety	1.50	0.00	0.00	0.00	0.00	1.50
MB - Renewals provision adjustment for Yanco Weir				-4.43	-4.43	-4.43
Sub Total adjustments	5.44	6.29	-24.29	-29.11	-47.11	-41.67
ADJUSTED EXPENDITURE BEFORE APPLICATION OF EFFICIENCY TARGETS						
Water Delivery & Other Operations	2.38	1.89	0.00	0.00	1.89	4.28
Flood Operations	0.00	0.00	0.00	0.00	0.00	0.00
Hydrometric Monitoring	0.00	0.00	0.00	0.00	0.00	0.00
Water Quality Monitoring	0.00	0.00	0.00	0.00	0.00	0.00
Corrective Maintenance	1.07	0.67	0.00	0.00	0.67	1.74
Routine Maintenance	0.23	0.24	0.24	0.32	0.79	1.02
Asset Management Planning	1.22	1.04	1.33	1.19	3.56	4.78
Dam Safety Compliance	8.72	19.40	6.98	4.86	31.24	39.96
Environmental Planning & Protection	6.65	10.21	7.96	7.10	25.28	31.93
Corporate Systems	8.47	7.57	12.77	9.35	29.69	38.17
Drought projects (3 dams)	93.06	2.31	2.30	2.28	6.89	99.95
Drought projects (other)	1.43	0.41	0.40	0.40	1.21	2.64
Renewals and Replacement	19.80	27.76	26.61	15.74	70.10	89.91
Dam safety compliance on pre 1997 capital projects	5.08	1.84	0.00	0.00	1.84	6.93
Structural and other enhancements	0.00	0.00	0.00	0.00	0.00	0.00
Customer support	0.00	0.00	0.00	0.00	0.00	0.00
Internal corporate projects	0.00	0.00	0.00	0.00	0.00	0.00
Total pre-efficiency	148.12	73.34	58.59	41.24	173.17	321.29
Atkins/Cardno recommended additional capital efficiency targets (beyond those applied by the company)						
Continuing Efficiency (%)	0.70%	1.40%	2.09%	2.77%		
Continuing Efficiency (\$M)	-1.04	-1.02	-1.22	-1.14	-3.39	-4.42
Catch-up efficiency (%)	2.11%	4.22%	6.83%	7.44%		
Catch-up efficiency (\$M)	-3.10	-3.05	-3.92	-2.98	-9.95	-13.05
ATKINS/CARDNO ASSESSMENT OF EFFICIENT EXPENDITURE						
(\$M 2020/21) year ending June	2022	2023	2024	2025	2023-25 Total	2022-25 Total
Water Delivery & Other Operations	2.32	1.79	0.00	0.00	1.79	4.11
Flood Operations	0.00	0.00	0.00	0.00	0.00	0.00
Hydrometric Monitoring	0.00	0.00	0.00	0.00	0.00	0.00
Water Quality Monitoring	0.00	0.00	0.00	0.00	0.00	0.00
Corrective Maintenance	1.04	0.64	0.00	0.00	0.64	1.68
Routine Maintenance	0.22	0.22	0.22	0.29	0.73	0.95
Asset Management Planning	1.19	0.98	1.21	1.07	3.27	4.46
Dam Safety Compliance	8.47	18.33	6.37	4.37	29.07	37.54
Environmental Planning & Protection	6.46	9.65	7.27	6.39	23.30	29.76
Corporate Systems	8.24	7.15	11.65	8.42	27.22	35.45
Drought projects (3 dams)	90.46	2.18	2.10	2.05	6.33	96.79
Drought projects (other)	1.39	0.38	0.37	0.36	1.11	2.50
Renewals and Replacement	19.25	26.21	24.27	14.17	64.66	83.90
Dam safety compliance on pre 1997 capital projects	4.94	1.74	0.00	0.00	1.74	6.68
Structural and other enhancements	0.00	0.00	0.00	0.00	0.00	0.00
Customer support	0.00	0.00	0.00	0.00	0.00	0.00
Internal corporate projects	0.00	0.00	0.00	0.00	0.00	0.00
Total Efficient Expenditure- recommended by Atkins	143.99	69.26	53.45	37.12	159.83	303.82
<i>User Share Capital Expenditure</i>	<i>41.35</i>	<i>56.45</i>	<i>44.64</i>	<i>30.10</i>	<i>131.19</i>	<i>172.54</i>
<i>Government Share Capital Expenditure</i>	<i>102.63</i>	<i>12.82</i>	<i>8.81</i>	<i>7.02</i>	<i>28.65</i>	<i>131.28</i>

4. Output Measures

WaterNSW has did not propose any output measures within its pricing submission. In our Final Report we recommended new output measures for the future determination period 2021 – 2025. In its response to IPART's Draft Determination WaterNSW commented on our recommended output measure for it Skyline customer service measure. We have also revised our recommended output measure related to the Fish Passage Offset schemes. We discuss these below.

4.1. Skyline customer service measure

WaterNSW responded to IPART's Draft Determination that:

IPART is proposing to introduce a customer service KPI using the 'Skyline' composite measure as recommended by Atkins.

However, WaterNSW does not support the 75% composite measure proposed by Atkins by 2024-25.

WaterNSW has achieved the ~50% composite measure for the Skyline results as at 2019-20. We consider that a 20-25 point improvement within the next determination period is unachievable in terms of customer satisfaction growth / improvement.

WaterNSW has adopted an internal target to achieve annual year on year increases/improvement of 2.5% per annum. This measure has been adopted by IPART in the WAMC determination for the W10-01 performance metric. For example, at page 204 of the WAMC efficiency report, Cardno recommends an Improvement of 2.5% p.a. on 2021 level.

We consider that the Rural Valley metric should be aligned with our internal reporting/customer survey results and with the WAMC determination.

While we concur that a 20-25 point improvement may be very stretching, the alternative of 2.5% p.a. is on the contrary not stretching enough and we do not think it is relevant that this aligns with internal targets.

If WaterNSW was already performing at a high level, the scope for significant improvements would be much smaller but this is not the case which indicates that there is the potential to achieve a step change.

This is a reputational measure only and WaterNSW will not incur a financial penalty so the "risk" associated with having a very stretching target is relatively small. This is an argument for retaining a more stretching target. We also believe that this aligns with the costs allowed in this and the WAMC Determinations. WaterNSW has been expending and will continue to expend considerable amounts on digital transformation which is driving improvements in processes internally (indirect benefit) and for customers (directly) and both contribute to providing a better service. There have also been increases in headcount in customer facing positions. This is about changing the mindset and culture to promote customer service and customer experience rather than funding per se.

In light of the above, we are therefore proposing to adjust the target to 68% for the composite measure. We also highlighted in our original report that this is not only about introducing a new output measure but about improving transparency on performance. The existing KPI has been an internal measure only and WaterNSW has not published its performance. WaterNSW should also be reporting Skyline prominently on its website and in its publications to improve visibility and accountability on performance.

4.2. Fish passage offset schemes

In our Final Report we recommended that WaterNSW have two output measures related to the Fish Pass Offset projects which were:

- Fish pass offsets pilot projects – to complete two pilot projects at Gunidgera and Tyreel Weir to the satisfaction of DPI Fisheries; and
- Fish pass planning, design, programming – to complete the final business case and detailed designs for the remaining nine schemes

Since then WaterNSW have submitted a revised schedule and program for this work. We have therefore adjusted our recommendations on the output measures as follows:

- Fish pass offsets pilot projects – to complete three pilot projects at Gunidgera, Marebone Break Weir and Lake Cargelligo Outlet Regulator to the satisfaction of DPI Fisheries; and
- Fish pass planning, design, programming – to complete the final business case and detailed designs for remaining eight (seven if Tyreel Weir is constructed in the 2021 period) schemes, to the satisfaction of DPI Fisheries

The full measures are listed in Table 4-1 below.

4.3. Revised recommended output measures

As per our Final Report we have attempted to express these measures in terms that are as close to outcomes as possible at this stage. In future reviews, as the maturity of WaterNSW's measures of customer experience and underlying asset risk improve, we recommend that these measures become increasingly outcomes-based wherever possible. This should help to improve the focus on delivering outcomes for customers by providing the flexibility to allow for better solutions to be developed during the determination period. As mentioned above the changes from our Final Report are the recommended output measures for:

- Customer measure (Skyline);
- Fish pass offsets pilot projects; and
- Fish pass planning, design, programming.

Table 4-1 New output measures for 2020 - 2025 – Rural Valleys

Project	Output measure	Expected completion	Activity
Lake Cargelligo Embankment upgrade works	Completion of embankment safety works to bring risk assessment into tolerable zone of SFAIRP	FY23	Detailed design and construction of embankment raising and filter works
Fish pass offsets pilot projects	Completion of the Gunidgera, Marebone Break Weir and Lake Cargelligo Outlet Regulator fish passage offset schemes to the satisfaction of DPI Fisheries	FY25	Detailed design and construction of the novel fish passage schemes at the three weirs and agreed with DPI Fisheries
Fish pass planning, design, programming	Final business case and detailed designs for the remaining eight (seven if Tyreel Weir is constructed in the 2021 period) fish passage offset schemes, taking account of the lessons learned from the pilot schemes, to the satisfaction of DPI Fisheries	FY25	On the basis of the construction and evaluation of the three pilot fish pass schemes at Gunidgera, Marebone Break Weir and Lake Cargelligo, and following progression of the construction at Tyreel Weir, progress with developing the business cases and detailed design and program for delivery of the remaining eight fish pass schemes in the 2025 determination period to the satisfaction of DPI Fisheries.
Asset renewals and condition	Report on: a) Service orders requiring reactive maintenance, broken down by asset sub-types. b) Number of assets with a criticality rating of 4 or above, broken down by asset sub-types.	Report annually	

Project	Output measure	Expected completion	Activity
Asset Performance and Health	Develop asset risk evaluations across all appropriate asset classes	FY25	This will improve understanding of underlying asset risk and ultimately support future expenditure and investment decisions
Fish river scheme	Develop and implement a customer impact measure (e.g. minutes lost per customer) for water supply interruption events that can be used to measure performance	FY22	This will improve the focus on customer impacts of water supply interruption events rather than only the number of events that take place and drive operational improvements within the scheme. Once baselined this can be used to show performance and impact of events against various asset classes on the scheme.
Implementation of The WAVE Program	Completion of full scope of the programme on budget as per Final Business Case presented to Board 27 May 2020, comprising Operational Technology, Analytics and Water Market components and providing the benefits identified in the business case(s) used to justify the expenditure.	FY24	Program objectives: Service and efficiency improvements by allowing low value tasks to be automated Centralised management of water information by improving access to up-to-date and reliable water information for personnel and customers Consolidation of ICT systems with harmonisation and integration of ICT landscape to drive operational efficiencies and enable improved performance of services through better insights from high integrity data Mitigation of risks through improving integrity and reliability of business processes and data management
Customer measure	Achieve 68% score for "Skyline" composite measure and regularly publish regularly the results	FY25	The measure is based on customer perception from the annual research programme survey and built up from four sub measures: the suitability of services provided, satisfaction with services provided, value for money and quality of relationships. Results should be shared via the principal customer communication channels (e.g. WaterNSW website, annual report).
Cost Allocation Manual	Agreement on an updated Cost Allocation Manual with IPART	Dec-21	To reflect the recommendations of the corporate cost allocation review in Section 8 of this report. To report on progress on the application of the cost allocation manual through the annual AIR submission.

5. Corporate cost allocation

5.1. Introduction

In our Report⁸ on the allocation of corporate costs between the WaterNSW business units - Greater Sydney, Rural Valleys, Water Administration Ministerial Corporation (WAMC) functions, Broken Hill pipeline and Other - we made recommendations on the proportion of total efficient corporate costs should be allocated to each business unit over the period 2022 to 2025. This was based on a detailed review of the drivers of costs across its corporate functions. The recommendations resulted in adjustments to the corporate allocation costs for the WaterNSW business units over the four-year period 2022 to 2025 as proposed in Table 3.3 of the IPART Draft Report⁹.

WaterNSW submitted a response¹⁰ to the IPART Draft Report and commented on specific issues related to cost allocation. In particular in Section 2.5 of its response identified several issues. We discussed these issues with WaterNSW at a meeting on 22nd April. We also requested further information to support our review. The issues raised by WaterNSW included representations on

- The overhead allocation process;
- The implementation of changes to the cost allocation method;
- The allocation of overhead to non-core projects;
- The impact on the Broken Hill costs;
- The allocation of additional regulation staff costs to regulated businesses;
- The application of FTEs or labour cost drivers compared with total operating costs; and
- The application of capital overheads to the WAVE project.

We comment on each of these issues in the following sections and then present our findings and any change in the impact on the WaterNSW businesses.

WaterNSW also commented that it had omitted to include capital corporate overheads to its WAVE program which we discuss.

5.2. The overhead allocation process

WaterNSW maintains that its method using 'totex' is consistent with the IPART Cost Allocation Guidelines and is used by other utilities in other jurisdictions. However, it does not present any new evidence to challenge the basis of the findings in our report. In Section 8.3.5 of our report, we concluded that the 'totex' methodology used by WaterNSW is a broad assessment and does not reflect the cost drivers of corporate overheads which should be derived at a more granular level of analysis.

WaterNSW comments that it is not appropriate for a regulator to mandate certain accounting policies. We agree that the business needs to apply its own accounting processes within the requirements of accounting standards and the Audit Office.

Our primary concern is that corporate costs are allocated to regulated businesses at a granular level using appropriate methods and relevant cost drivers so that customers make a reasonable and fair contribution to efficient corporate costs in each of the regulated businesses. In addition, customers should not be asked to fund non-regulatory activities through any cross-subsidy of corporate costs. It is reasonable to assume that the Audit Office would take into account the reasons for the cost allocation.

⁸ Expenditure review of WaterNSW Rural Bulk Water Services and Corporate Cost Allocation, Atkins, February 2021

⁹ Review of WaterNSW's Rural Bulk Water Prices, IPART, March 2021

¹⁰ WaterNSW Response to IPART Draft Determination on Rural Valley prices, WaterNSW, April 2021

In Section 8.3 of our Final Report, we identified cost drivers for the operational business units and identified the services provided in each of the corporate business units which could be used as cost drivers. For clarity we reproduce the information in Table 5-1 below with potential cost drivers added.

Table 5-1 Corporate business unit cost drivers

Business Unit	Services to operational business units	Services to 'Group' functions	Potential cost drivers and basis for allocation
Finance and Commercial	Financial planning Procurement Fleet and logistics	Financial control Economic analysis	Direct cost coding Staff utilisation Allocation by direct cost
Safety People and performance	Payroll Recruitment Training Environment Program management	Health and safety Industrial relations	FTEs Staff utilisation Allocation by direct cost
Legal	Business support Contracts	External relations Risk and compliance Secretary Audit Enforcement	Direct cost coding Staff utilisation Allocation by direct cost
Business Systems and Information	Water and asset systems Customer systems Operational support Operational data	Corporate Systems Strategy and architecture Corporate data	Direct cost coding System utilisation FTEs Allocation by direct cost

Source: Atkins analysis, data from other utility cost allocation, Sydney Water, Bristol Water

In Section 8.5 of our Final Report, we commented that water companies in England and Wales allocated costs across several price controls supported by detailed accounting separation manuals similar to the cost allocation requirements in NSW and applied by Sydney Water. The allocation methods are applied at a detailed level with specific cost drivers determined for each area of the business. Cost drivers are generally operating costs or specific activities within each area of the business. This granular approach provides clear processes which can be readily reviewed by regulators and auditors. The manuals are approved by the regulator and published on company websites. A good example is Bristol Water^[1].

WaterNSW has not provided any additional information which leads us to find that the totex methodology is not appropriate. We concluded that a granular approach is needed to identify cost drivers in each of the corporate business units. This detailed granular approach is applied by Sydney Water and the water companies in England and Wales. We discuss implementation changes to the cost allocation method in Section 5.3 below.

^[1] Accounting Separation Manual, Bristol Water, 2020

5.3. The implementation of changes to the cost allocation method

WaterNSW commented in discussion that changes to the cost allocation method would take time to implement. If it was implemented from year 1 of the determination period then additional resources would be required to manage the changes.

In Section 8.1.2 of our Report, and in particular Table 8.2, we set out recommended actions for implementing changes to the cost allocation methods across several activities. In item 4 – 'post-capitalisation corporate expenditure to regulated businesses' we set out possible timing options for this activity. The timing of the necessary changes to systems and processes, with the necessary testing and training is a matter for WaterNSW

to decide. It would be appropriate to implement before the submission for the next Greater Sydney price review. We propose that WaterNSW reports progress with implementation through the annual AIR.

The timeline does not constrain WaterNSW from continuing its approach to extend direct activity reporting and costing across its corporate functions so that the extent of unallocated time and cost is reduced.

Analysis of the current approach indicates that there are likely to be cross subsidies between core and non-core activities and across the regulated businesses from the start of the determination period. While we recognise and support a phased approach to the implementation of an updated cost allocation method, adjustments are proposed to efficient operating expenditure from FY2022 to compensate for these likely cross subsidies. IPART has indicated in its Draft Report a method to make future cost adjustments.

5.4. Cost allocation to non-core projects

WaterNSW explains that there are two type of non-core projects; those 'steady state' projects such as services provided to the MDBA construction authority and 'special' non-core projects such as those for government departments. It considers these 'special' non-core projects to be incremental to its core business, has greater uncertainty in timing and is generally delivered through differing models. The 'special' non-core projects have a 10% uplift applied for corporate overheads.

WaterNSW subsequently explained that while its analysis assumes a 10% uplift, in practice the level of overhead recovery from these 'special' non-core projects is generally less. The difference between the 10% allowance in its Cost Allocation Manual and actual charges is absorbed by the company and is not passed to regulated businesses. Examples of the top non-core projects, comprising some 96% of current projects, and its overhead recovery is shown in Table 5-2 below.

Table 5-2 Special non-core projects overhead recovery

Project name	Actual Operating expenditure in 2021 year to date \$m	Overhead recovery rate %
Wyangala Dam Wall Raising	(17.4)	4%
Dungowan Dam	(13.8)	4%
Mole River Dam	(11.4)	4%
Warragamba Dam Raising	(6.4)	10%
Lstock Dam to Glennis Creek Dam Pipeline	(2.0)	11%
Wilcannia Weir Replacement	(2.0)	8%
13105 Wentworth Downstream Riverbank Stabilisation	(1.7)	MDBA (~5-10%)
Western Weirs	(1.5)	5%
Water Reform Implementation Program	(1.4)	Nil
11232 Hydrometrics Surface Water Monitoring	(1.0)	MDBA (~5-10%)

Source WaterNSW

We note that the assumed 10% of corporate overhead cost may not be fully recovered. However, this analysis does not resolve the question as to whether the 10% assumption fully reflects the corporate overhead 'consumed' in these non-core projects. The potential under-recovery of overheads from non-core projects should not impact on the regulated businesses.

WaterNSW reiterated that the corporate inputs driven by these projects is less than the regulated businesses and different in nature.

We tested an alternative approach using FTEs to allocate between core and 'non-core activities using data provided by WaterNSW. All the non-core projects are classified as 'opex' so we used the opex FTEs as a basis for analysis.

The analysis of FTE data indicated that on average 12% of total 'opex' FTEs worked or are forecast to work on 'non-core' or 'other' activities in the period 2022 to 2025. Assuming the same salary distribution applies to non-core FTEs and core staff, this suggests that non-core staff costs form some 12% of core labour costs. We use this information in the testing of cost allocation by direct labour or FTEs in Section 5.6 below.

5.5. The impact on Broken Hill pipeline overheads

WaterNSW commented that the corporate overhead cost analysis in our report using total operating expenditure had a disproportionate impact on the Broken Hill pipeline regulated business. This was because the annual operating expenditure includes a significant proportion of power costs. WaterNSW provided operating cost information to show that electricity costs formed some 44% of total allowable expenditure.

We have updated the corporate cost analysis using operating expenditure with the exclusion of the Broken Hill power costs. This results in no material change to the current corporate overhead allowance for Broken Hill pipeline and some marginal changes to the other regulated businesses and

WaterNSW commented that it allocates \$0.5m/a overhead costs compared with \$0.2m/a in the most recent determination.

5.6. The use of FTEs or labour expenditure as cost drivers

We commented in our report that the cost allocation method should be consistent with the IPART guidance which states

'Costs should generally be allocated on the basis of causality. That is costs should be allocated to the cost objects that cause the costs to be incurred'

We used the total direct operating expenditure for all regulated businesses and made an assessment of the non-core expenditure which would normally be considered as operating expenditure. This was because complete data on FTEs available and labour costs at the time of the analysis were not available.

We asked WaterNSW to provide additional data to allow an estimate of corporate overhead cost allocation using FTEs as a driver. It explained that it was not possible to allocate FTEs by regulated businesses although it is possible to allocate labour costs to determinations using the timesheet reporting system. It explained that direct labour costs are allocated to projects which, in turn, are assigned to regulated businesses. WaterNSW provided a summary of corporate cost allocation using salary costs in table 15 of its submission although supporting calculations were not provided.

We assessed the impact of using labour costs for the allocation of corporate overheads using some key assumptions. There was insufficient reliable and complete information on FTEs and salary costs to derive a robust assessment of the allocation of corporate costs and hence adjustments to the current proposals. Some initial assessments showed high adjustment values; these were based on several assumptions as complete data was not available. We concluded that the data was not sufficiently robust to justify alternative values than those proposed from allocation of cost using total operating expenditure.

We have therefore applied our original methodology using direct operating costs, with the adjustment for Broken Hill pipeline costs discussed in Section 5.5 above, and rounded the values. This is because the values are our estimates of the likely adjustments to be made at this stage. It will be necessary to review and update these estimates when the new cost allocation methodology is in place.

The indicative values of proposed changes to corporate allocation costs are shown in Table 5-3.

Table 5-3 Estimated impact of change to corporate allocation costs (2022 to 2025)

	Corporate overhead from totex		Corporate overhead from direct opex		Estimated adjustment (\$m rounded)	Basis of cost allocation
	\$m	%	\$m	%		
Rural valleys	40.20	29.2	35.85	26.0	-4.2	Total direct operating cost
WAMC	16.86	12.2	19.20	14.0	2.3	Total direct operating cost
Greater Sydney	69.15	50.2	66.89	48.5	-2.2	Total direct operating cost
Broken Hill	2.04	1.5	2.18	1.6	0.0	Direct opex adjusted for power costs
Non-core	9.55	6.9	13.69	9.9	4.1	Assume 40% of non-core expenditure is operating cost

Source: WNSW total direct costs from the MCP projects (opex) listing and Atkins estimates

We noted that the corporate overhead allocation to non-core expenditure is 9.9% compared with the 12% of FTEs who are working on, or forecast to work on, non-core projects. This provides comfort that the level of allocation of corporate overheads to non-core activities is reasonable.

In summary, we have tested the use of FTEs and salary costs but the data was incomplete or uncertain. We concluded that there is no reason to change from our use of the direct operating expenditure methodology for cost allocation. Our estimate of the likely impact of the methodology on corporate costs is not significantly changed from our Report. We do, however, continue to recommend that the Cost Allocation Manual is updated, to establish more robust and granular causal relationships between corporate cost allocation and drivers within each business function, as set out in Section 8 of our Final Report.

We commented in our report that the level of corporate overheads was high in relation to other water utilities such as Sydney Water. This level can be reduced by a greater number of corporate staff recording their time against cost codes. We welcome WaterNSW's approach in greater use of activity-based costing within its corporate business units. A significantly greater application of activity-based costing will reduce the level of cost allocation and hence uncertainties in the process; it will also assist in identifying further efficiencies.

5.7. Regulatory Staff

In our report, we accepted the need for three additional regulatory staff to augment the existing team to manage the IPART determinations and other regulatory processes at a cost of \$0.71m/a. We accepted the additional cost and apportioned this 25:50:25 to the GR:RV: WAMC determinations respectively. WaterNSW further commented that

We request that IPART reconsider the proposed allocation between Rural Valleys, WAMC and Greater Sydney of 50:25:25 and instead allocate the additional resources in equal shares between the Rural Valley and WAMC determination.

This is because of the more extensive work in the Rural Valleys for both the RV and WAMC businesses compared with Greater Sydney. We have reviewed the submission and support this change in allocation. There is no change to the Rural Valleys efficient corporate expenditure as the 50% allocation of costs is unchanged. The impact on the WAMC efficient operating expenditure is shown in Table 5-4 below.

Table 5-4 WAMC efficient corporate expenditure after adjustment to regulation costs

CORPORATE EFFICIENT EXPENDITURE WAMC				
\$m 2021 Year ending June	2022	2023	2024	2025
CORPORATE OPERATING EXPENDITURE BY ACTIVITY				
Total efficient expenditure	7.82	7.84	7.59	7.07
Adjust for regulatory team	0.17	0.17	0.17	0.17
Net operating expenditure	7.99	8.01	7.76	7.24

Source: Atkins analysis

5.8. Corporate capital expenditure

5.8.1. The WAVE program

Water NSW advised that in its pricing proposals,

'... the WAVE program capital expenditure of \$39.9 million was understated by approximately \$3 million due to the exclusion of capitalised overheads in the program estimate. WaterNSW is seeking the inclusion of the capitalised overheads in the two final determinations using the split recommended by Atkins per the Efficiency Report and pro-rated between 2020-21 to 2022- 23. The inclusion of the full costs of the program are integral to ensuring that the benefits included in the pricing proposals can be delivered.'

We reviewed the specific WAVE projects in the project listing pre-overhead allocation and that expenditure proposed in the submission in Table 5-5 below. We concluded that the WAVE program expenditure includes an uplift for capitalised corporate overhead. We concluded that there is no change to corporate capital expenditure proposed in our Final Report.

Table 5-5 Comparison of WAVE program expenditure

WAVE Program				
Reference	Project name	MCP listing 2022 to 2025	Table 8.27 Atkins Report	Uplift on MCP
		\$m	\$m	%
AL900299.12	ICT Business Process Automation - Program Forecasting	1.182	1.398	22%
AL900300.12	ICT Water Market Systems - Program Forecasting	8.755	10.370	18%
AL900307.12	ICT Cyber Security - Program Forecasting	1.663	1.976	19%
AL900302.12	ICT Analytics - Program Forecasting	6.187	7.320	18%
AL900304.12	ICT Collaboration - Program Forecasting	1.712	2.035	19%
AL900303.12	ICT Data Centre - Program Forecasting	2.266	2.692	19%
AL900305.12	ICT Corporate Systems - Program Forecasting	3.671	4.350	18%

5.8.2. Fleet Vehicles

In Section 8 of our Final Report and Table 8-15, we found that the proposed expenditure of an average A\$0.9m/a for the RV businesses was prudent and efficient, given the move to capital purchase and extending the average life from three to five years or 100,000km to 150,000km.

We then reviewed the WAMC expenditure forecasts, assuming the same criteria for renewal, which showed a higher level of expenditure than the RV business. Forecast expenditure was an average \$1.2m/a with a peak expenditure of \$3.2m in 2024. We investigated why this level of expenditure was inconsistent with the RV forecast expenditure which we considered to be efficient.

We looked at the drivers for fleet expenditure which mainly relate to FTEs although the split of FTEs was not available. We looked at labour costs but data for WAMC was not available. We then considered total operating expenditure as a driver and noted that the RV expenditure was just over twice that of WAMC. While we could have factored expenditure to the RV efficient expenditure this would result in a significant reduction for WAMC. We took into account WaterNSW representations that the proposed scope adjustment would impact on the life or use of vehicles and impact on maintenance costs.

We concluded that the efficient level of expenditure should be no greater than the RV efficient level of expenditure. The impact is to reduce the WAMC expenditure by \$1.2m over the determination period. Because of the varying profile, we have applied this reduction to the year 2024 expenditure. The impact on total WAMC expenditure is shown in Table 5-6. There is no change to the RV fleet expenditure.

Table 5-6 WAMC Corporate expenditure

CORPORATE EXPENDITURE 2021 PERIOD WAMC						
\$m 2021 Year ending June	2021	2022	2023	2024	2025	Total 2022 to 2025
WNSW PROPOSALS						
ICT capital expenditure	5.16	3.13	2.97	2.61	1.60	10.32
Vehicle procurement	1.18	0.30	0.68	3.21	0.62	5.99
Other corporate expenditure	0.69	0.18	0.20	0.23	0.20	0.81
Corporate expenditure in SIR (CAPEX2)	7.03	3.61	3.86	6.05	2.42	15.93
SCOPE ADJUSTMENT AND REALLOCATION						
ICT expenditure reallocation	0.00	-0.80	-0.80	-0.80	-0.80	-3.22
Integrated Business Systems BC - reallocate	0.00	0.06	0.06	0.06	0.06	0.26
Vehicle procurement	0.00	0.00	0.00	-1.20	0.00	-1.20
Total Scope adjustments and reallocation	0.00	-0.74	-0.74	-1.94	-0.74	-4.16
Net expenditure pre-efficiency	7.03	2.87	3.12	4.11	1.68	11.78
EFFICIENCY ADJUSTMENTS						
Catch-up efficiency	0.00	-0.06	-0.13	-0.28	-0.13	-0.60
Continuing efficiency	0.00	-0.02	-0.04	-0.08	-0.04	-0.18
Efficient level of corporate capital expenditure	7.03	2.79	2.95	3.75	1.51	10.99

Source Atkins

5.9. Summary

We have reviewed the WaterNSW submission dated April 2021, held a remote meeting with their team and received further information we requested. We have carried out further analysis, focusing on new information provided since we issued our Report. We concluded that

- (i) There was no additional information provided to change our findings on the cost allocation methodology;
- (ii) We accept that WaterNSW needs a period of time to implement a revised cost allocation method including changes to systems and processes and the necessary testing and training. However, continuing with the current method until the new one is fully applied has an adverse impact on the balance of customer charges on the relevant regulated businesses and non-core activities. There is therefore no reason to change the principal of adjusting the corporate allocation costs as proposed by IPART although there are some small changes to the values proposed. This use of a direct operating cost method provides an estimate of allocated corporate overheads until a more granular and detailed approach can be implemented.
- (iii) Non-core allocation of overheads. WaterNSW has explained that for several non-core projects it has or is likely to receive less than the 10% uplift on direct costs which it assumes in its cost allocation model and absorbs any losses. This does not address the potential cross subsidy of regulated business overheads to unregulated businesses. We tested the allocation using FTE numbers and noted that 12% of 'opex' FTEs (that is not allocated to capex) are or are forecast to be allocated to non-core activities.
- (iv) We have accepted the need to make an adjustment to the Broken Hill operating expenditure in the total operating cost analysis as power costs have a disproportional impact on the allocation method.
- (v) We tested the use of FTEs or labour cost as a basis for cost allocation. We found that the FTE data was incomplete and while WaterNSW was able to provide FTE data allocated to core and non-core activities, opex and capex, it was not able to provide FTE data allocated to each regulated business. It provided a further summary of overhead apportionment using labour costs although there was insufficient supporting information for us to review. We concluded that there was insufficient information to change our approach to cost allocation using direct operating costs. We noted that this analysis shows the percentage of overhead costs allocated to non-core is similar to the FTE proportion.
- (vi) The uncertainties around corporate overhead allocation can be much reduced with a greater application of activity-based costing to all staff. We suggest this is progressed over the next two years so that for the next Greater Sydney efficiency review, there will be greater granularity for all costs.
- (vii) We have accepted the WNSW proposal to adjust the proportion of additional regulation staff costs equally to Rural Valleys and WAMC. The WAMC efficient costs increase although there is no change to the RV efficient expenditure.

We have reviewed the project costs for the WAVE project and conclude that expenditure proposed in our report includes for capitalised corporate overheads.

Appendices



Appendix A. Expenditure by valley

A.1. Border

Table A-1 - Capital Expenditure Border

WATERSW RURAL BULK WATER PROPOSAL - CAPEX - BORDER										
	2018	2019	2020	2021	2022	2023	2024	2025	2023-25 Total	2022-25 Total
(\$M 2020/21) year ending June										
Water Delivery & Other Operations	0.00	0.13	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Flood Operations	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hydrometric Monitoring	0.00	0.00	0.10	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Water Quality Monitoring	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Corrective Maintenance	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Routine Maintenance	0.00	0.00	0.00	0.03	0.00	0.00	0.00	0.00	0.01	0.01
Asset Management Planning	0.00	0.00	0.00	0.01	0.01	0.01	0.01	0.01	0.04	0.05
Dam Safety Compliance	0.00	0.00	0.00	0.35	0.30	0.02	0.03	0.02	0.08	0.38
Environmental Planning & Protection	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Corporate Systems	0.04	0.01	0.11	0.23	0.08	0.07	0.07	0.05	0.19	0.26
Drought projects (3 dams)	0.00	0.00	4.43	35.34	23.41	0.73	0.72	0.72	2.17	25.58
Drought projects (other)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Renewals and Replacement	0.05	0.10	0.50	0.10	0.14	0.23	0.23	0.23	0.69	0.83
Dam safety compliance on pre 1997 capital projects	0.06	0.06	1.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Structural and other enhancements	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Customer support	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Internal corporate projects	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total capex proposed by WNSW	0.14	0.30	6.17	36.05	23.94	1.06	1.08	1.03	3.17	27.11
Atkins/Cardno recommended adjustments for specific programs or projects										
PDMP reallocation from Corporate to Drought projects (3 dams)			0.46	0.09						
Water Delivery & Other Operations - Corporate Systems FY20 miscoding			0.01							
Flood operations - Corporate Systems FY20 miscoding			0.00							
Hydrometric monitoring - Corporate Systems FY20 miscoding			0.01							
Asset management planning - Corporate Systems FY20 miscoding			0.00							
Dam safety compliance pre1997 - Corporate Systems FY20 miscoding			0.00							
Environmental Planning & Protection - Corporate Systems FY20 miscoding			0.00							
Renewals and Replacement - Corporate Systems FY20 miscoding			0.00							
Corporate Systems - Corporate Systems FY20 miscoding			-0.02							
BO Corporate Systems RAB to Salary Allocation adjustment					0.10	0.09	0.09	0.06	0.23	0.33
BO Dam Safety Compliance RAB to Salary Allocation adjustment					0.03	0.03	0.05	0.03	0.11	0.14
BO Asset management planning RAB to Salary Allocation adjustment					0.02	0.01	0.01	0.01	0.03	0.05
BO Routine maintenance RAB to Salary Allocation adjustment					0.00	0.00	0.00	0.00	0.01	0.01
BO Renewals and Replacement RAB to Salary Allocation adjustment					0.00	0.00	0.00	0.00	0.00	0.00
BO - Corporate Scope and Reallocation				0.00	0.01	0.01	0.01	0.01	0.04	0.06
Sub Total adjustments	0.00	0.00	0.46	0.09	0.16	0.15	0.16	0.12	0.43	0.59
ADJUSTED EXPENDITURE BEFORE APPLICATION OF EFFICIENCY TARGETS										
Water Delivery & Other Operations	0.00	0.13	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Flood Operations	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hydrometric Monitoring	0.00	0.00	0.11	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Water Quality Monitoring	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Corrective Maintenance	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Routine Maintenance	0.00	0.00	0.00	0.03	0.01	0.01	0.01	0.01	0.02	0.02
Asset Management Planning	0.00	0.00	0.00	0.01	0.03	0.02	0.02	0.02	0.07	0.10
Dam Safety Compliance	0.00	0.00	0.00	0.35	0.33	0.06	0.08	0.05	0.19	0.52
Environmental Planning & Protection	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Corporate Systems	0.04	0.01	0.09	0.23	0.19	0.17	0.17	0.12	0.47	0.65
Drought projects (3 dams)	0.00	0.00	4.89	35.42	23.41	0.73	0.72	0.72	2.17	25.58
Drought projects (other)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Renewals and Replacement	0.05	0.10	0.50	0.10	0.14	0.23	0.23	0.23	0.69	0.83
Dam safety compliance on pre 1997 capital projects	0.06	0.06	1.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Structural and other enhancements	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Customer support	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Internal corporate projects	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total pre-efficiency	0.14	0.30	6.64	36.14	24.10	1.21	1.24	1.15	3.60	27.70
Atkins/Cardno recommended additional capital efficiency targets (beyond those applied by the company)										
Continuing Efficiency (%)					0.70%	1.40%	2.09%	2.77%		
Continuing Efficiency (\$M)					-0.17	-0.02	-0.03	-0.03	-0.07	-0.24
Catch-up efficiency (%)					2.11%	4.22%	6.83%	7.44%		
Catch-up efficiency (\$M)					-0.50	-0.05	-0.08	-0.08	-0.22	-0.72
ATKINS/CARDNO ASSESSMENT OF EFFICIENT EXPENDITURE										
(\$M 2020/21) year ending June	2018	2019	2020	2021	2022	2023	2024	2025	2023-25 Total	2022-25 Total
Water Delivery & Other Operations	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00
Flood Operations	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00
Hydrometric Monitoring	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.00	0.00
Water Quality Monitoring	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00
Corrective Maintenance	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00
Routine Maintenance	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.02	0.02
Asset Management Planning	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.06	0.09
Dam Safety Compliance	0.0	0.0	0.0	0.3	0.3	0.1	0.1	0.0	0.17	0.49
Environmental Planning & Protection	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00
Corporate Systems	0.0	0.0	0.1	0.2	0.2	0.2	0.2	0.1	0.43	0.61
Drought projects (3 dams)	0.0	0.0	4.9	35.4	22.8	0.7	0.7	0.6	1.99	24.75
Drought projects (other)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00
Renewals and Replacement	0.1	0.1	0.5	0.1	0.1	0.2	0.2	0.2	0.64	0.77
Dam safety compliance on pre 1997 capital projects	0.1	0.1	1.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00
Structural and other enhancements	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00
Customer support	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00
Internal corporate projects	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00
Total Efficient Expenditure	0.14	0.30	6.64	36.14	23.43	1.14	1.13	1.04	3.31	26.74
User Share Capital Expenditure	0.1	0.2	0.7	0.5	0.6	0.4	0.4	0.3	1.2	1.7
Government Share Capital Expenditure	0.1	0.1	6.0	35.6	22.9	0.7	0.7	0.7	2.1	25.0

Table A-2 – Operating Expenditure Border

WATERNSW RURAL BULK WATER PROPOSAL - OPEX - Border Valley											
(\$M 2020/21) year ending June	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
Customer Support	0.06	0.04	0.04	0.02	0.03	0.16	0.24	0.24	0.23	0.24	0.23
Customer Billing	0.04	0.04	0.03	0.03	0.04	-0.01	0.02	0.02	0.02	0.02	0.02
Metering and Compliance	0.25	0.22	0.17	0.14	0.14	0.13	0.18	0.18	0.18	0.16	0.15
Water Delivery and Other Operations	0.23	0.23	0.32	0.29	0.29	0.33	0.30	0.30	0.29	0.28	0.28
Flood Operations	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hydrometric Monitoring	0.05	0.03	0.06	0.07	0.07	0.16	0.05	0.05	0.05	0.05	0.05
Water Quality Monitoring	0.01	0.02	0.05	0.04	0.05	0.03	0.03	0.03	0.03	0.03	0.03
Corrective Maintenance	0.06	0.11	0.12	0.04	0.07	0.09	0.13	0.13	0.13	0.14	0.14
Routine Maintenance	0.25	0.21	0.25	0.24	0.27	0.29	0.35	0.34	0.34	0.36	0.36
Asset management planning	0.13	0.11	0.07	0.05	0.01	0.00	0.05	0.05	0.10	0.04	0.03
Dam Safety Compliance Capital Projects pre-1997	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Dam Safety Compliance	0.24	0.20	0.17	0.12	0.09	0.10	0.16	0.13	0.16	0.17	0.17
Environmental Planning and Protection	0.05	0.02	0.00	0.00	0.00	0.00	0.01	0.01	0.01	0.01	0.01
Direct Insurances	0.07	0.00	0.00	0.09	0.20	0.19	0.11	0.11	0.11	0.11	0.11
Renewal and Replacement	0.00	0.00	0.00	0.09	0.06	0.00	0.00	0.00	0.00	0.00	0.00
Corporate Systems	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Internal	0.02	0.00	0.00	0.00	0.00	0.03	0.01	0.01	0.05	0.05	0.05
New Metering and Compliance	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Environmental Delivery	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Border Valley - Total Operating Expenditure	1.46	1.24	1.29	1.23	1.34	1.50	1.64	1.60	1.69	1.66	1.62
Atkins/Cardno recommended scope adjustments											
Customer Support	0.00	0.00	0.00	0.00	0.00	0.00	0.00	-0.01	-0.01	-0.01	-0.01
Customer Billing	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Metering and Compliance	0.00	0.00	0.00	0.00	0.00	0.00	0.00	-0.01	-0.01	-0.01	0.00
Water Delivery and Other Operations	0.00	0.00	0.00	0.00	0.00	0.00	0.00	-0.02	-0.01	-0.02	-0.01
Flood Operations	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hydrometric Monitoring	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Water Quality Monitoring	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Corrective Maintenance	0.00	0.00	0.00	0.00	0.00	0.00	0.00	-0.01	-0.01	-0.01	0.00
Routine Maintenance	0.00	0.00	0.00	0.00	0.00	0.00	0.00	-0.02	-0.01	-0.02	-0.01
Asset management planning	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Dam Safety Compliance Capital Projects pre-1997	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Dam Safety Compliance	0.00	0.00	0.00	0.00	0.00	0.00	0.00	-0.01	-0.01	-0.01	-0.01
Environmental Planning and Protection	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Direct Insurances	0.00	0.00	0.00	0.00	0.00	0.00	0.00	-0.01	0.00	-0.01	0.00
Renewal and Replacement	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Corporate Systems	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Internal	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	-0.03	-0.03	-0.03
New Metering and Compliance	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Environmental Delivery	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Sub Total adjustments	0.00	0.00	0.00	0.00	0.00	0.00	0.00	-0.09	-0.10	-0.11	-0.07
Atkins/Cardno recommended efficiency targets											
Continuing Efficiency (%)								0.70%	1.40%	2.09%	2.77%
Continuing Efficiency (\$M)								-0.01	-0.02	-0.03	-0.04
Catch-up efficiency (%)								1.10%	2.19%	3.26%	4.33%
Catch-up efficiency (\$M)								-0.02	-0.03	-0.05	-0.06
ATKINS/CARDNO ASSESSMENT OF EFFICIENT EXPENDITURE											
(\$M 2020/21) year ending June	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
Customer Support	0.06	0.04	0.04	0.02	0.03	0.16	0.24	0.22	0.21	0.21	0.21
Customer Billing	0.04	0.04	0.03	0.03	0.04	-0.01	0.02	0.02	0.02	0.02	0.02
Metering and Compliance	0.25	0.22	0.17	0.14	0.14	0.13	0.18	0.17	0.16	0.14	0.13
Water Delivery and Other Operations	0.23	0.23	0.32	0.29	0.29	0.33	0.30	0.28	0.27	0.26	0.25
Flood Operations	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hydrometric Monitoring	0.05	0.03	0.06	0.07	0.07	0.16	0.05	0.04	0.04	0.04	0.04
Water Quality Monitoring	0.01	0.02	0.05	0.04	0.05	0.03	0.03	0.02	0.02	0.02	0.02
Corrective Maintenance	0.06	0.11	0.12	0.04	0.07	0.09	0.13	0.12	0.12	0.12	0.12
Routine Maintenance	0.25	0.21	0.25	0.24	0.27	0.29	0.35	0.32	0.31	0.32	0.32
Asset management planning	0.13	0.11	0.07	0.05	0.01	0.00	0.05	0.04	0.10	0.03	0.03
Dam Safety Compliance Capital Projects pre-1997	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Dam Safety Compliance	0.24	0.20	0.17	0.12	0.09	0.10	0.16	0.12	0.15	0.16	0.15
Environmental Planning and Protection	0.05	0.02	0.00	0.00	0.00	0.00	0.01	0.01	0.01	0.01	0.01
Direct Insurances	0.07	0.00	0.00	0.09	0.20	0.19	0.11	0.10	0.10	0.10	0.10
Renewal and Replacement	0.00	0.00	0.00	0.09	0.06	0.00	0.00	0.00	0.00	0.00	0.00
Corporate Systems	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Internal	0.02	0.00	0.00	0.00	0.00	0.03	0.01	0.01	0.03	0.03	0.03
New Metering and Compliance	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Environmental Delivery	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total Efficient Expenditure	1.46	1.24	1.29	1.23	1.34	1.50	1.64	1.48	1.54	1.46	1.44

A.2. Gwydir

Table A-3 - Capital Expenditure Gwydir

WATERSNSW RURAL BULK WATER PROPOSAL - CAPEX										
	2018	2019	2020	2021	2022	2023	2024	2025	2023-25 Total	2022-25 Total
(\$M 2020/21) year ending June										
Water Delivery & Other Operations	0.00	1.88	0.08	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Flood Operations	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00
Hydrometric Monitoring	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Water Quality Monitoring	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Corrective Maintenance	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Routine Maintenance	0.00	0.00	0.00	0.06	0.03	0.03	0.03	0.04	0.11	0.14
Asset Management Planning	0.00	0.00	0.00	0.16	0.17	0.15	0.19	0.17	0.51	0.68
Dam Safety Compliance	0.00	0.00	0.00	0.78	3.95	3.19	1.44	0.74	5.37	9.32
Environmental Planning & Protection	0.00	0.00	0.00	0.10	1.13	1.01	10.16	10.02	21.19	22.31
Corporate Systems	1.05	0.13	5.00	2.00	1.06	0.98	1.42	1.07	3.47	4.53
Drought projects (3 dams)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Drought projects (other)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Renewals and Replacement	0.56	0.17	0.54	2.69	1.02	1.78	0.87	0.87	3.53	4.54
Dam safety compliance on pre 1997 capital projects	0.00	0.00	0.17	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Structural and other enhancements	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Customer support	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Internal corporate projects	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total capex proposed by WNSW	1.61	2.19	5.80	5.81	7.36	7.14	14.11	12.92	34.17	41.53
Atkins/Cardno recommended adjustments for specific programs or projects										
PDMP reallocation from Corporate to Drought projects (3 dams)			-0.23	-0.04						
Water Delivery & Other Operations - Corporate Systems FY20 miscoding			0.24							
Flood operations - Corporate Systems FY20 miscoding			0.03							
Hydrometric monitoring - Corporate Systems FY20 miscoding			0.31							
Asset management planning - Corporate Systems FY20 miscoding			0.01							
Dam safety compliance pre1997 - Corporate Systems FY20 miscoding			0.12							
Environmental Planning & Protection - Corporate Systems FY20 miscoding			0.03							
Renewals and Replacement - Corporate Systems FY20 miscoding			0.15							
Corporate Systems - Corporate Systems FY20 miscoding			-0.90							
CPTN Fish Passage Offsets adjustment				-0.1	-1.0	-1.0	-9.0	-6.1	-16.09	-17.09
GW Corporate Systems RAB to Salary Allocation adjustment					-0.32	-0.29	-0.29	-0.20	-0.78	-1.10
GW Dam Safety Compliance RAB to Salary Allocation adjustment					-0.11	-0.10	-0.16	-0.09	-0.35	-0.46
GW Asset management planning RAB to Salary Allocation adjustment					-0.05	-0.04	-0.04	-0.04	-0.12	-0.17
GW Routine maintenance RAB to Salary Allocation adjustment					-0.01	-0.01	-0.01	-0.01	-0.03	-0.04
GW Renewals and Replacement RAB to Salary Allocation adjustment					0.00	0.00	0.00	0.00	0.00	0.00
Copeton Spillway Investigations reallocation from dam safety compliance				-0.59	-3.58	-1.84			-1.84	-5.43
Copeton Spillway Investigations reallocation to <1997 dam safety compliance				0.59	3.58	1.84	0.00	0.00	1.84	5.43
GW - Corporate Scope and Reallocation				0.00	0.05	0.05	0.05	0.05	0.16	0.22
GW - Cold Water Pollution					0.08	0.04	0.00	0.00	0.04	0.13
Sub Total adjustments	0.00	0.00	-0.23	-0.15	-1.35	-1.37	-9.39	-6.41	-17.17	-18.52
ADJUSTED EXPENDITURE BEFORE APPLICATION OF EFFICIENCY TARGETS										
Water Delivery & Other Operations	0.00	1.88	0.32	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Flood Operations	0.00	0.00	0.03	0.01	0.00	0.00	0.00	0.00	0.00	0.00
Hydrometric Monitoring	0.00	0.00	0.31	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Water Quality Monitoring	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Corrective Maintenance	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Routine Maintenance	0.00	0.00	0.00	0.06	0.02	0.02	0.02	0.03	0.08	0.10
Asset Management Planning	0.00	0.00	0.01	0.16	0.12	0.11	0.15	0.13	0.39	0.51
Dam Safety Compliance	0.00	0.00	0.00	0.20	0.26	1.24	1.29	0.65	3.18	3.43
Environmental Planning & Protection	0.00	0.00	0.03	0.00	0.21	0.04	1.20	3.90	5.14	5.35
Corporate Systems	1.05	0.13	3.87	1.96	0.79	0.74	1.19	0.93	2.85	3.64
Drought projects (3 dams)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Drought projects (other)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Renewals and Replacement	0.56	0.17	0.69	2.69	1.02	1.78	0.87	0.87	3.53	4.54
Dam safety compliance on pre 1997 capital projects	0.00	0.00	0.30	0.59	3.58	1.84	0.00	0.00	1.84	5.43
Structural and other enhancements	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Customer support	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Internal corporate projects	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total pre-efficiency	1.61	2.19	5.57	5.66	6.01	5.77	4.72	6.51	17.00	23.01
Atkins/Cardno recommended additional capital efficiency targets (beyond those applied by the company)										
Continuing Efficiency (%)				0.00%	0.70%	1.40%	2.09%	2.77%		
Continuing Efficiency (\$M)				0.00	-0.04	-0.08	-0.10	-0.18	-0.36	-0.40
Catch-up efficiency (%)				0.00%	2.11%	4.22%	6.83%	7.44%		
Catch-up efficiency (\$M)				0.00	-0.13	-0.24	-0.32	-0.47	-1.03	-1.15
ATKINS/CARDNO ASSESSMENT OF EFFICIENT EXPENDITURE										
	2018	2019	2020	2021	2022	2023	2024	2025	2023-25 Total	2022-25 Total
(\$M 2020/21) year ending June										
Water Delivery & Other Operations	0.0	1.9	0.3	0.0	0.0	0.0	0.0	0.0	0.00	0.00
Flood Operations	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00
Hydrometric Monitoring	0.0	0.0	0.3	0.0	0.0	0.0	0.0	0.0	0.00	0.00
Water Quality Monitoring	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00
Corrective Maintenance	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00
Routine Maintenance	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.07	0.09
Asset Management Planning	0.0	0.0	0.0	0.2	0.1	0.1	0.1	0.1	0.36	0.47
Dam Safety Compliance	0.0	0.0	0.0	0.2	0.2	1.2	1.2	0.6	2.93	3.18
Environmental Planning & Protection	0.0	0.0	0.0	0.0	0.2	0.0	1.1	3.5	4.64	4.85
Corporate Systems	1.0	0.1	3.9	2.0	0.8	0.7	1.1	0.8	2.61	3.38
Drought projects (3 dams)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00
Drought projects (other)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00
Renewals and Replacement	0.6	0.2	0.7	2.7	1.0	1.7	0.8	0.8	3.26	4.25
Dam safety compliance on pre 1997 capital projects	0.0	0.0	0.3	0.6	3.5	1.7	0.0	0.0	1.74	5.22
Structural and other enhancements	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00
Customer support	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00
Internal corporate projects	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00
Total Efficient Expenditure	1.61	2.19	5.57	5.66	5.84	5.45	4.31	5.86	15.62	21.46
User Share Capital Expenditure	1.6	2.2	5.1	4.7	2.1	3.2	3.6	4.8	11.7	13.7
Government Share Capital Expenditure	0.1	0.0	0.4	1.0	3.8	2.2	0.7	1.0	4.0	7.7

Table A-4 – Operating Expenditure Gwydir

WATERNSW RURAL BULK WATER PROPOSAL - OPEX - Gwydir Valley											
(\$M 2020/21) year ending June	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
Customer Support	0.06	0.05	0.05	0.03	0.03	0.17	0.14	0.14	0.14	0.15	0.15
Customer Billing	0.08	0.08	0.06	0.05	0.10	0.45	0.04	0.04	0.04	0.04	0.04
Metering and Compliance	0.24	0.14	0.20	0.18	0.18	0.04	0.04	0.04	0.03	0.03	0.03
Water Delivery and Other Operations	0.46	0.33	0.37	0.39	0.45	0.52	0.71	0.86	0.73	0.85	0.81
Flood Operations	0.04	0.02	0.07	0.04	0.06	0.01	0.19	0.17	0.20	0.20	0.19
Hydrometric Monitoring	0.73	0.71	0.85	0.77	0.70	0.53	0.53	0.53	0.52	0.59	0.57
Water Quality Monitoring	0.03	0.04	0.11	0.06	0.08	0.08	0.04	0.04	0.04	0.04	0.04
Corrective Maintenance	0.34	0.34	0.28	0.27	0.47	0.48	0.58	0.57	0.56	0.60	0.58
Routine Maintenance	1.07	1.06	1.20	1.25	1.69	1.90	1.48	1.50	1.48	1.61	1.72
Asset management planning	0.33	0.27	0.19	0.12	0.04	-0.01	0.19	0.28	0.50	0.52	0.45
Dam Safety Compliance Capital Projects pre-1997	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Dam Safety Compliance	0.37	0.33	0.30	0.37	0.22	0.30	0.30	0.32	0.53	0.51	0.43
Environmental Planning and Protection	0.16	0.21	0.01	0.00	0.00	0.00	0.05	0.07	0.06	0.10	0.09
Direct Insurances	0.19	0.00	0.00	0.25	0.74	0.70	0.41	0.41	0.41	0.41	0.41
Renewal and Replacement	0.00	0.00	0.00	0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Corporate Systems	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Internal	0.06	0.00	0.01	0.00	0.00	0.54	0.20	0.19	0.37	0.39	0.38
New Metering and Compliance	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Environmental Delivery	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Gwydir Valley - Total Operating Expenditure	4.15	3.58	3.69	3.82	4.77	5.72	4.91	5.17	5.61	6.04	5.90
Atkins/Cardno recommended scope adjustments											
Customer Support	0.00	0.00	0.00	0.00	0.00	0.00	0.00	-0.01	0.00	-0.02	-0.02
Customer Billing	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	-0.01	0.00
Metering and Compliance	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Water Delivery and Other Operations	0.00	0.00	0.00	0.00	0.00	0.00	0.00	-0.05	-0.02	-0.12	-0.10
Flood Operations	0.00	0.00	0.00	0.00	0.00	0.00	0.00	-0.01	-0.01	-0.03	-0.02
Hydrometric Monitoring	0.00	0.00	0.00	0.00	0.00	0.00	0.00	-0.03	-0.02	-0.08	-0.07
Water Quality Monitoring	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	-0.01	0.00
Corrective Maintenance	0.00	0.00	0.00	0.00	0.00	0.00	0.00	-0.04	-0.02	-0.08	-0.07
Routine Maintenance	0.00	0.00	0.00	0.00	0.00	0.00	0.00	-0.09	-0.05	-0.22	-0.22
Asset management planning	0.00	0.00	0.00	0.00	0.00	0.00	0.00	-0.02	-0.02	-0.07	-0.06
Dam Safety Compliance Capital Projects pre-1997	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Dam Safety Compliance	0.00	0.00	0.00	0.00	0.00	0.00	0.00	-0.02	-0.02	-0.07	-0.05
Environmental Planning and Protection	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.39	0.20	-0.01	-0.01
Direct Insurances	0.00	0.00	0.00	0.00	0.00	0.00	0.00	-0.03	-0.01	-0.06	-0.05
Renewal and Replacement	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Corporate Systems	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Internal	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02	-0.16	-0.18	-0.18
New Metering and Compliance	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Environmental Delivery	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Sub Total adjustments	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.10	-0.13	-0.96	-0.88
Atkins/Cardno recommended efficiency targets											
Continuing Efficiency (%)								0.70%	1.40%	2.09%	2.77%
Continuing Efficiency (\$M)								-0.04	-0.08	-0.11	-0.14
Catch-up efficiency (%)								1.10%	2.19%	3.26%	4.33%
Catch-up efficiency (\$M)								-0.06	-0.12	-0.16	-0.21
ATKINS/CARDNO ASSESSMENT OF EFFICIENT EXPENDITURE											
(\$M 2020/21) year ending June	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
Customer Support	0.06	0.05	0.05	0.03	0.03	0.17	0.14	0.13	0.13	0.12	0.12
Customer Billing	0.08	0.08	0.06	0.05	0.10	0.45	0.04	0.04	0.04	0.03	0.03
Metering and Compliance	0.24	0.14	0.20	0.18	0.18	0.04	0.04	0.04	0.03	0.03	0.03
Water Delivery and Other Operations	0.46	0.33	0.37	0.39	0.45	0.52	0.71	0.79	0.68	0.69	0.66
Flood Operations	0.04	0.02	0.07	0.04	0.06	0.01	0.19	0.16	0.19	0.16	0.15
Hydrometric Monitoring	0.73	0.71	0.85	0.77	0.70	0.53	0.53	0.49	0.49	0.48	0.46
Water Quality Monitoring	0.03	0.04	0.11	0.06	0.08	0.08	0.04	0.03	0.03	0.03	0.03
Corrective Maintenance	0.34	0.34	0.28	0.27	0.47	0.48	0.58	0.52	0.52	0.49	0.48
Routine Maintenance	1.07	1.06	1.20	1.25	1.69	1.90	1.48	1.38	1.38	1.32	1.40
Asset management planning	0.33	0.27	0.19	0.12	0.04	-0.01	0.19	0.25	0.47	0.43	0.36
Dam Safety Compliance Capital Projects pre-1997	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Dam Safety Compliance	0.37	0.33	0.30	0.37	0.22	0.30	0.30	0.29	0.49	0.42	0.35
Environmental Planning and Protection	0.16	0.21	0.01	0.00	0.00	0.00	0.05	0.45	0.25	0.09	0.08
Direct Insurances	0.19	0.00	0.00	0.25	0.74	0.70	0.41	0.38	0.39	0.34	0.34
Renewal and Replacement	0.00	0.00	0.00	0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Corporate Systems	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Internal	0.06	0.00	0.01	0.00	0.00	0.54	0.20	0.21	0.20	0.19	0.19
New Metering and Compliance	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Environmental Delivery	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total Efficient Expenditure	4.15	3.58	3.69	3.82	4.77	5.72	4.91	5.17	5.28	4.81	4.67

A.3. Namoi

Table A-5 - Capital Expenditure Namoi

WATERNSW RURAL BULK WATER PROPOSAL - CAPEX - NAMOI										
(\$M 2020/21) year ending June	2018	2019	2020	2021	2022	2023	2024	2025	2023-25 Total	2022-25 Total
Water Delivery & Other Operations	0.00	1.16	0.30	0.46	0.00	0.00	0.00	0.00	0.00	0.00
Flood Operations	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00
Hydrometric Monitoring	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Water Quality Monitoring	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Corrective Maintenance	0.00	0.00	0.02	0.06	1.07	0.67	0.00	0.00	0.67	1.74
Routine Maintenance	0.00	0.00	0.00	0.15	0.05	0.05	0.05	0.07	0.17	0.22
Asset Management Planning	0.00	0.00	0.00	0.24	0.27	0.23	0.30	0.27	0.80	1.07
Dam Safety Compliance	0.00	0.00	0.00	3.46	0.63	1.46	1.15	0.60	3.21	3.84
Environmental Planning & Protection	0.14	0.08	0.24	0.08	0.41	0.43	4.37	4.29	9.09	9.50
Corporate Systems	1.34	0.18	2.23	3.51	1.67	1.53	2.51	1.46	5.51	7.18
Drought projects (3 dams)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Drought projects (other)	0.00	0.00	0.00	0.55	1.02	0.00	0.00	0.00	0.00	1.02
Renewals and Replacement	0.11	0.23	0.35	3.08	0.30	0.74	1.49	1.11	3.34	3.64
Dam safety compliance on pre 1997 capital projects	9.64	12.83	17.34	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Structural and other enhancements	0.01	0.01	0.06	0.03	0.00	0.00	0.00	0.00	0.00	0.00
Customer support	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Internal corporate projects	0.00	0.00	0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total capex proposed by WNSW	11.23	14.48	20.58	11.64	5.43	5.12	9.88	7.79	22.79	28.22
Atkins/Cardno recommended adjustments for specific programs or projects										
PDMP reallocation from Corporate to Drought projects (3 dams)			-0.22	-0.04						
Water Delivery & Other Operations - Corporate Systems FY20 miscoding			0.11							
Flood operations - Corporate Systems FY20 miscoding			0.02							
Hydrometric monitoring - Corporate Systems FY20 miscoding			0.14							
Asset management planning - Corporate Systems FY20 miscoding			0.00							
Dam safety compliance pre1997 - Corporate Systems FY20 miscoding			0.05							
Environmental Planning & Protection - Corporate Systems FY20 miscoding			0.01							
Renewals and Replacement - Corporate Systems FY20 miscoding			0.07							
Corporate Systems - Corporate Systems FY20 miscoding			-0.40							
KEEP Fish Passage Offsets adjustment				0.0	4.4	4.2	-4.3	-4.3	-4.44	0.00
NO Corporate Systems RAB to Salary Allocation adjustment					-0.81	-0.73	-0.72	-0.49	-1.94	-2.75
NO Dam Safety Compliance RAB to Salary Allocation adjustment					-0.26	-0.26	-0.39	-0.23	-0.89	-1.15
NO Asset management planning RAB to Salary Allocation adjustment					-0.13	-0.10	-0.10	-0.10	-0.29	-0.42
NO Routine maintenance RAB to Salary Allocation adjustment					-0.02	-0.02	-0.02	-0.03	-0.08	-0.10
NO Renewals and Replacement RAB to Salary Allocation adjustment					0.00	0.00	0.00	0.00	0.00	0.00
NO - Corporate Scope and Reallocation				0.00	0.06	0.06	0.06	0.06	0.18	0.24
NO - Cold Water Pollution					0.08	0.04	0.00	0.00	0.04	0.13
Sub Total adjustments	0.00	0.00	-0.22	-0.04	3.36	3.14	-5.48	-5.09	-7.43	-4.06
ADJUSTED EXPENDITURE BEFORE APPLICATION OF EFFICIENCY TARGETS										
Water Delivery & Other Operations	0.00	1.16	0.41	0.46	0.00	0.00	0.00	0.00	0.00	0.00
Flood Operations	0.00	0.00	0.02	0.01	0.00	0.00	0.00	0.00	0.00	0.00
Hydrometric Monitoring	0.00	0.00	0.14	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Water Quality Monitoring	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Corrective Maintenance	0.00	0.00	0.02	0.06	1.07	0.67	0.00	0.00	0.67	1.74
Routine Maintenance	0.00	0.00	0.00	0.15	0.03	0.03	0.03	0.04	0.09	0.12
Asset Management Planning	0.00	0.00	0.00	0.24	0.15	0.13	0.20	0.17	0.50	0.65
Dam Safety Compliance	0.00	0.00	0.00	3.46	0.37	1.19	0.76	0.36	2.32	2.69
Environmental Planning & Protection	0.14	0.08	0.25	0.08	4.94	4.62	0.06	0.00	4.69	9.62
Corporate Systems	1.34	0.18	1.60	3.47	0.92	0.86	1.86	1.03	3.75	4.66
Drought projects (3 dams)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Drought projects (other)	0.00	0.00	0.00	0.55	1.02	0.00	0.00	0.00	0.00	1.02
Renewals and Replacement	0.11	0.23	0.42	3.08	0.30	0.74	1.49	1.11	3.34	3.64
Dam safety compliance on pre 1997 capital projects	9.64	12.83	17.40	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Structural and other enhancements	0.01	0.01	0.06	0.03	0.00	0.00	0.00	0.00	0.00	0.00
Customer support	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Internal corporate projects	0.00	0.00	0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total pre-efficiency	11.23	14.48	20.36	11.60	8.79	8.25	4.40	2.71	15.36	24.16
Atkins/Cardno recommended additional capital efficiency targets (beyond those applied by the company)										
Continuing Efficiency (%)				0.00%	0.70%	1.40%	2.09%	2.77%		
Continuing Efficiency (\$M)				0.00	-0.06	-0.12	-0.09	-0.08	-0.28	-0.34
Catch-up efficiency (%)				0.00%	2.11%	4.22%	6.83%	7.44%		
Catch-up efficiency (\$M)				0.00	-0.18	-0.34	-0.29	-0.20	-0.83	-1.02
ATKINS/CARDNO ASSESSMENT OF EFFICIENT EXPENDITURE										
(\$M 2020/21) year ending June	2018	2019	2020	2021	2022	2023	2024	2025	2023-25 Total	2022-25 Total
Water Delivery & Other Operations	0.0	1.2	0.4	0.5	0.0	0.0	0.0	0.0	0.00	0.00
Flood Operations	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00
Hydrometric Monitoring	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.00	0.00
Water Quality Monitoring	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00
Corrective Maintenance	0.0	0.0	0.0	0.1	1.0	0.6	0.0	0.0	0.64	1.68
Routine Maintenance	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.09	0.11
Asset Management Planning	0.0	0.0	0.0	0.2	0.1	0.1	0.2	0.1	0.46	0.60
Dam Safety Compliance	0.0	0.0	0.0	3.5	0.4	1.1	0.7	0.3	2.15	2.51
Environmental Planning & Protection	0.1	0.1	0.3	0.1	4.8	4.4	0.1	0.0	4.43	9.22
Corporate Systems	1.3	0.2	1.6	3.5	0.9	0.8	1.7	0.9	3.43	4.32
Drought projects (3 dams)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00
Drought projects (other)	0.0	0.0	0.0	0.5	1.0	0.0	0.0	0.0	0.00	1.00
Renewals and Replacement	0.1	0.2	0.4	3.1	0.3	0.7	1.4	1.0	3.06	3.35
Dam safety compliance on pre 1997 capital projects	9.6	12.8	17.4	0.0	0.0	0.0	0.0	0.0	0.00	0.00
Structural and other enhancements	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.00	0.00
Customer support	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00
Internal corporate projects	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00
Total Efficient Expenditure	11.2	14.5	20.4	11.6	8.5	7.8	4.0	2.4	14.2	22.8
User Share Capital Expenditure	1.5	1.6	2.8	9.0	6.3	6.5	3.4	2.1	12.0	18.3
Government Share Capital Expenditure	9.7	12.9	17.6	2.6	2.3	1.3	0.6	0.3	2.2	4.5

Table A-6 – Operating Expenditure Namoi

WATERNSW RURAL BULK WATER PROPOSAL - OPEX - Namoi Valley											
(\$M 2020/21) year ending June	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
Customer Support	0.07	0.05	0.05	0.03	0.09	0.15	0.13	0.13	0.13	0.13	0.13
Customer Billing	0.10	0.09	0.07	0.06	0.11	-0.02	0.05	0.05	0.04	0.04	0.04
Metering and Compliance	0.23	0.35	0.21	0.17	0.09	0.06	0.02	0.02	0.02	0.02	0.02
Water Delivery and Other Operations	0.56	0.39	0.44	0.54	0.59	0.52	0.89	0.72	0.67	0.76	0.71
Flood Operations	0.06	0.02	0.07	0.04	0.08	0.01	0.19	0.17	0.20	0.20	0.19
Hydrometric Monitoring	0.67	0.67	1.07	0.82	0.78	0.65	0.55	0.52	0.52	0.57	0.55
Water Quality Monitoring	0.02	0.06	0.07	0.04	0.07	0.06	0.07	0.07	0.07	0.08	0.07
Corrective Maintenance	0.37	0.28	0.18	0.37	0.18	0.35	0.44	0.44	0.43	0.46	0.45
Routine Maintenance	1.24	1.30	1.45	1.60	1.63	2.11	1.64	1.59	1.58	1.71	1.75
Asset management planning	0.26	0.22	0.14	0.09	0.03	-0.01	0.31	0.16	0.38	0.34	0.24
Dam Safety Compliance Capital Projects pre-1997	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Dam Safety Compliance	0.48	0.42	0.41	0.49	0.31	0.35	0.56	0.49	0.73	0.68	0.61
Environmental Planning and Protection	0.12	0.05	0.00	0.01	0.01	0.00	0.08	0.04	0.04	0.07	0.06
Direct Insurances	0.15	0.00	0.00	0.23	0.72	0.69	0.40	0.40	0.40	0.40	0.40
Renewal and Replacement	0.00	0.00	0.00	0.08	0.00	0.00	0.01	0.00	0.00	0.00	0.00
Corporate Systems	0.00	0.00	0.00	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Internal	0.06	0.00	0.00	0.00	0.02	0.61	0.37	0.35	0.55	0.58	0.57
New Metering and Compliance	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Environmental Delivery	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Namoi Valley - Total Operating Expenditure	4.41	3.90	4.18	4.59	4.72	5.54	5.71	5.16	5.75	6.02	5.78
Atkins/Cardno recommended scope adjustments											
Customer Support	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	-0.01	0.00
Customer Billing	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Metering and Compliance	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Water Delivery and Other Operations	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.01	-0.05	-0.03
Flood Operations	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	-0.01	-0.01
Hydrometric Monitoring	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	-0.04	-0.02
Water Quality Monitoring	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	-0.01	0.00
Corrective Maintenance	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	-0.03	-0.02
Routine Maintenance	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.02	-0.12	-0.07
Asset management planning	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	-0.02	-0.01
Dam Safety Compliance Capital Projects pre-1997	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Dam Safety Compliance	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	-0.05	-0.02
Environmental Planning and Protection	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.42	0.21	0.00	0.00
Direct Insurances	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	-0.03	-0.02
Renewal and Replacement	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Corporate Systems	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Internal	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07	-0.18	-0.21	-0.20
New Metering and Compliance	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Environmental Delivery	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Sub Total adjustments	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.53	0.09	-0.59	-0.40
Atkins/Cardno recommended efficiency targets											
Continuing Efficiency (%)								0.70%	1.40%	2.09%	2.77%
Continuing Efficiency (\$M)								-0.04	-0.08	-0.11	-0.15
Catch-up efficiency (%)								1.10%	2.19%	3.26%	4.33%
Catch-up efficiency (\$M)								-0.06	-0.13	-0.17	-0.23
ATKINS/CARDNO ASSESSMENT OF EFFICIENT EXPENDITURE											
(\$M 2020/21) year ending June	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
Customer Support	0.07	0.05	0.05	0.03	0.09	0.15	0.13	0.13	0.12	0.11	0.11
Customer Billing	0.10	0.09	0.07	0.06	0.11	-0.02	0.05	0.04	0.04	0.04	0.04
Metering and Compliance	0.23	0.35	0.21	0.17	0.09	0.06	0.02	0.02	0.02	0.02	0.02
Water Delivery and Other Operations	0.56	0.39	0.44	0.54	0.59	0.52	0.89	0.71	0.65	0.67	0.63
Flood Operations	0.06	0.02	0.07	0.04	0.08	0.01	0.19	0.17	0.20	0.17	0.17
Hydrometric Monitoring	0.67	0.67	1.07	0.82	0.78	0.65	0.55	0.52	0.50	0.50	0.49
Water Quality Monitoring	0.02	0.06	0.07	0.04	0.07	0.06	0.07	0.07	0.07	0.07	0.07
Corrective Maintenance	0.37	0.28	0.18	0.37	0.18	0.35	0.44	0.43	0.42	0.40	0.40
Routine Maintenance	1.24	1.30	1.45	1.60	1.63	2.11	1.64	1.58	1.54	1.50	1.57
Asset management planning	0.26	0.22	0.14	0.09	0.03	-0.01	0.31	0.16	0.38	0.30	0.21
Dam Safety Compliance Capital Projects pre-1997	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Dam Safety Compliance	0.48	0.42	0.41	0.49	0.31	0.35	0.56	0.48	0.71	0.60	0.55
Environmental Planning and Protection	0.12	0.05	0.00	0.01	0.01	0.00	0.08	0.46	0.24	0.06	0.05
Direct Insurances	0.15	0.00	0.00	0.23	0.72	0.69	0.40	0.40	0.39	0.36	0.36
Renewal and Replacement	0.00	0.00	0.00	0.08	0.00	0.00	0.01	0.00	0.00	0.00	0.00
Corporate Systems	0.00	0.00	0.00	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Internal	0.06	0.00	0.00	0.00	0.02	0.61	0.37	0.41	0.36	0.35	0.34
New Metering and Compliance	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Environmental Delivery	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total Efficient Expenditure	4.41	3.90	4.18	4.59	4.72	5.54	5.71	5.59	5.64	5.15	5.00

A.4. Peel

Table A-7 - Capital Expenditure Peel

WATERSNSW RURAL BULK WATER PROPOSAL - CAPEX - PEEL										
(\$M 2020/21) year ending June	2018	2019	2020	2021	2022	2023	2024	2025	2023-25 Total	2022-25 Total
Water Delivery & Other Operations	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Flood Operations	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hydrometric Monitoring	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Water Quality Monitoring	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Corrective Maintenance	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Routine Maintenance	0.00	0.00	0.00	0.05	0.01	0.01	0.01	0.02	0.04	0.05
Asset Management Planning	0.00	0.00	0.00	0.06	0.06	0.05	0.07	0.06	0.18	0.24
Dam Safety Compliance	0.00	0.00	0.00	0.07	0.17	0.12	0.17	0.10	0.39	0.56
Environmental Planning & Protection	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Corporate Systems	0.26	0.03	0.21	0.86	0.38	0.35	0.34	0.24	0.94	1.32
Drought projects (3 dams)	0.00	0.00	5.94	75.01	22.18	0.53	0.53	0.52	1.58	23.76
Drought projects (other)	0.00	0.00	25.08	0.04	0.00	0.00	0.00	0.00	0.00	0.00
Renewals and Replacement	0.04	0.10	0.39	0.63	0.18	0.18	0.19	0.18	0.55	0.73
Dam safety compliance on pre 1997 capital projects	0.54	0.12	0.11	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Structural and other enhancements	0.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Customer support	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Internal corporate projects	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total capex proposed by WNSW	0.90	0.25	31.75	76.71	22.98	1.24	1.31	1.13	3.68	26.66
Atkins/Cardno recommended adjustments for specific programs or projects										
PDMP reallocation from Corporate to Drought projects (3 dams)			0.77	0.14						
Water Delivery & Other Operations - Corporate Systems FY20 miscoding			0.01							
Flood operations - Corporate Systems FY20 miscoding			0.00							
Hydrometric monitoring - Corporate Systems FY20 miscoding			0.01							
Asset management planning - Corporate Systems FY20 miscoding			0.00							
Dam safety compliance pre1997 - Corporate Systems FY20 miscoding			0.01							
Environmental Planning & Protection - Corporate Systems FY20 miscoding			0.00							
Renewals and Replacement - Corporate Systems FY20 miscoding			0.01							
Corporate Systems - Corporate Systems FY20 miscoding			-0.04							
PE Corporate Systems RAB to Salary Allocation adjustment					-0.17	-0.15	-0.15	-0.10	-0.40	-0.56
PE Dam Safety Compliance RAB to Salary Allocation adjustment					-0.05	-0.05	-0.08	-0.05	-0.18	-0.24
PE Asset management planning RAB to Salary Allocation adjustment					-0.03	-0.02	-0.02	-0.02	-0.06	-0.09
PE Routine maintenance RAB to Salary Allocation adjustment					0.00	0.00	-0.01	-0.01	-0.02	-0.02
PE Renewals and Replacement RAB to Salary Allocation adjustment					0.00	0.00	0.00	0.00	0.00	0.00
PE - Corporate Scope and Reallocation				0.00	0.02	0.02	0.02	0.02	0.05	0.06
PE - Chaffey Dam Additional pre 1997 dam safety					1.50				0.00	1.50
Sub Total adjustments	0.00	0.00	0.77	0.14	1.26	-0.21	-0.24	-0.16	-0.61	0.65
ADJUSTED EXPENDITURE BEFORE APPLICATION OF EFFICIENCY TARGETS										
Water Delivery & Other Operations	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Flood Operations	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hydrometric Monitoring	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Water Quality Monitoring	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Corrective Maintenance	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Routine Maintenance	0.00	0.00	0.00	0.05	0.01	0.01	0.01	0.01	0.02	0.03
Asset Management Planning	0.00	0.00	0.00	0.06	0.04	0.03	0.05	0.04	0.12	0.16
Dam Safety Compliance	0.00	0.00	0.00	0.07	0.11	0.07	0.09	0.05	0.21	0.32
Environmental Planning & Protection	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Corporate Systems	0.26	0.03	0.17	0.86	0.23	0.21	0.21	0.16	0.58	0.81
Drought projects (3 dams)	0.00	0.00	6.71	75.15	22.18	0.53	0.53	0.52	1.58	23.76
Drought projects (other)	0.00	0.00	25.08	0.04	0.00	0.00	0.00	0.00	0.00	0.00
Renewals and Replacement	0.04	0.10	0.40	0.63	0.18	0.18	0.19	0.18	0.55	0.73
Dam safety compliance on pre 1997 capital projects	0.54	0.12	0.12	0.00	1.50	0.00	0.00	0.00	0.00	1.50
Structural and other enhancements	0.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Customer support	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Internal corporate projects	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total pre-efficiency	0.90	0.25	32.52	76.85	24.25	1.03	1.07	0.97	3.06	27.31
Atkins/Cardno recommended additional capital efficiency targets (beyond those applied by the company)										
Continuing Efficiency (%)				0.00%	0.70%	1.40%	2.09%	2.77%		
Continuing Efficiency (\$M)				0.00	-0.17	-0.01	-0.02	-0.03	-0.06	-0.23
Catch-up efficiency (%)				0.00%	2.11%	4.22%	6.83%	7.44%		
Catch-up efficiency (\$M)				0.00	-0.51	-0.04	-0.07	-0.07	-0.18	-0.69
ATKINS/CARDNO ASSESSMENT OF EFFICIENT EXPENDITURE										
(\$M 2020/21) year ending June	2018	2019	2020	2021	2022	2023	2024	2025	2023-25 Total	2022-25 Total
Water Delivery & Other Operations	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Flood Operations	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Hydrometric Monitoring	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Water Quality Monitoring	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Corrective Maintenance	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Routine Maintenance	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Asset Management Planning	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.1	0.1
Dam Safety Compliance	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.0	0.2	0.3
Environmental Planning & Protection	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Corporate Systems	0.3	0.0	0.2	0.9	0.2	0.2	0.2	0.1	0.5	0.8
Drought projects (3 dams)	0.0	0.0	6.7	75.2	21.6	0.5	0.5	0.5	1.4	23.0
Drought projects (other)	0.0	0.0	25.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Renewals and Replacement	0.0	0.1	0.4	0.6	0.2	0.2	0.2	0.2	0.5	0.7
Dam safety compliance on pre 1997 capital projects	0.5	0.1	0.1	0.0	1.5	0.0	0.0	0.0	0.0	1.5
Structural and other enhancements	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Customer support	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Internal corporate projects	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Efficient Expenditure	0.9	0.2	32.5	76.9	23.6	0.97	1.0	0.9	2.8	26.4
<i>User Share Capital Expenditure</i>	<i>0.4</i>	<i>0.1</i>	<i>0.6</i>	<i>1.6</i>	<i>0.5</i>	<i>0.4</i>	<i>0.4</i>	<i>0.4</i>	<i>1.2</i>	<i>1.7</i>
<i>Government Share Capital Expenditure</i>	<i>0.5</i>	<i>0.1</i>	<i>31.9</i>	<i>75.3</i>	<i>23.1</i>	<i>0.6</i>	<i>0.5</i>	<i>0.5</i>	<i>1.6</i>	<i>24.7</i>

Table A-8 – Operating Expenditure Peel

WATERNSW RURAL BULK WATER PROPOSAL - OPEX - Peel Valley											
(\$M 2020/21) year ending June	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
Customer Support	0.01	0.03	0.02	0.01	0.01	0.07	0.23	0.23	0.22	0.22	0.22
Customer Billing	0.07	0.06	0.04	0.03	0.06	0.00	0.01	0.01	0.01	0.01	0.01
Metering and Compliance	0.09	0.09	0.04	0.05	0.05	0.10	0.05	0.05	0.05	0.05	0.04
Water Delivery and Other Operations	0.13	0.17	0.22	0.20	0.30	0.68	0.39	0.34	0.34	0.34	0.33
Flood Operations	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hydrometric Monitoring	0.21	0.21	0.16	0.15	0.15	0.18	0.09	0.09	0.09	0.09	0.09
Water Quality Monitoring	0.01	0.02	0.03	0.01	0.02	0.03	0.02	0.02	0.02	0.02	0.02
Corrective Maintenance	0.07	0.03	0.06	0.06	0.06	0.07	0.04	0.04	0.04	0.04	0.04
Routine Maintenance	0.17	0.15	0.23	0.23	0.22	0.20	0.18	0.18	0.18	0.19	0.19
Asset management planning	0.11	0.09	0.05	0.03	0.01	0.00	0.05	0.04	0.09	0.03	0.03
Dam Safety Compliance Capital Projects pre-1997	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Dam Safety Compliance	0.20	0.18	0.24	0.23	0.19	0.19	0.19	0.21	0.23	0.24	0.23
Environmental Planning and Protection	0.04	0.02	0.01	0.00	0.00	0.07	0.01	0.01	0.01	0.01	0.01
Direct Insurances	0.04	0.00	0.00	0.08	0.07	0.05	0.03	0.03	0.03	0.03	0.03
Renewal and Replacement	0.00	0.00	0.00	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Corporate Systems	0.00	0.00	0.00	0.13	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Internal	0.02	0.00	0.00	0.00	0.00	0.09	0.06	0.06	0.10	0.10	0.10
New Metering and Compliance	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Environmental Delivery	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Peel Valley - Total Operating Expenditure	1.18	1.05	1.09	1.24	1.13	1.74	1.37	1.30	1.40	1.38	1.35
Atkins/Cardno recommended scope adjustments											
Customer Support	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01
Customer Billing	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Metering and Compliance	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Water Delivery and Other Operations	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01
Flood Operations	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hydrometric Monitoring	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Water Quality Monitoring	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Corrective Maintenance	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Routine Maintenance	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01
Asset management planning	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Dam Safety Compliance Capital Projects pre-1997	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Dam Safety Compliance	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01
Environmental Planning and Protection	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Direct Insurances	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Renewal and Replacement	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Corporate Systems	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Internal	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	-0.03	-0.04	-0.03
New Metering and Compliance	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Environmental Delivery	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Sub Total adjustments	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02	-0.02	-0.03	0.00
Atkins/Cardno recommended efficiency targets											
Continuing Efficiency (%)								0.70%	1.40%	2.09%	2.77%
Continuing Efficiency (\$M)								-0.01	-0.02	-0.03	-0.04
Catch-up efficiency (%)								1.10%	2.19%	3.26%	4.33%
Catch-up efficiency (\$M)								-0.01	-0.03	-0.04	-0.06
ATKINS/CARDNO ASSESSMENT OF EFFICIENT EXPENDITURE											
(\$M 2020/21) year ending June	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
Customer Support	0.01	0.03	0.02	0.01	0.01	0.07	0.23	0.22	0.21	0.21	0.21
Customer Billing	0.07	0.06	0.04	0.03	0.06	0.00	0.01	0.01	0.01	0.01	0.01
Metering and Compliance	0.09	0.09	0.04	0.05	0.05	0.10	0.05	0.05	0.05	0.04	0.04
Water Delivery and Other Operations	0.13	0.17	0.22	0.20	0.30	0.68	0.39	0.34	0.33	0.32	0.32
Flood Operations	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hydrometric Monitoring	0.21	0.21	0.16	0.15	0.15	0.18	0.09	0.09	0.09	0.09	0.09
Water Quality Monitoring	0.01	0.02	0.03	0.01	0.02	0.03	0.02	0.02	0.02	0.02	0.02
Corrective Maintenance	0.07	0.03	0.06	0.06	0.06	0.07	0.04	0.04	0.04	0.04	0.04
Routine Maintenance	0.17	0.15	0.23	0.23	0.22	0.20	0.18	0.18	0.18	0.18	0.19
Asset management planning	0.11	0.09	0.05	0.03	0.01	0.00	0.05	0.03	0.09	0.03	0.03
Dam Safety Compliance Capital Projects pre-1997	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Dam Safety Compliance	0.20	0.18	0.24	0.23	0.19	0.19	0.19	0.21	0.22	0.23	0.22
Environmental Planning and Protection	0.04	0.02	0.01	0.00	0.00	0.07	0.01	0.01	0.01	0.01	0.01
Direct Insurances	0.04	0.00	0.00	0.08	0.07	0.05	0.03	0.03	0.03	0.03	0.03
Renewal and Replacement	0.00	0.00	0.00	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Corporate Systems	0.00	0.00	0.00	0.13	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Internal	0.02	0.00	0.00	0.00	0.00	0.09	0.06	0.07	0.06	0.07	0.06
New Metering and Compliance	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Environmental Delivery	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total Efficient Expenditure	1.18	1.05	1.09	1.24	1.13	1.74	1.37	1.30	1.34	1.28	1.25

A.5. Lachlan

Table A-9 - Capital Expenditure Lachlan

WATERSW RURAL BULK WATER PROPOSAL - CAPEX - LACHLAN										
(\$M 2020/21) year ending June	2018	2019	2020	2021	2022	2023	2024	2025	2023-25 Total	2022-25 Total
Water Delivery & Other Operations	0.00	1.50	0.12	0.21	1.43	1.04	0.00	0.00	1.04	2.47
Flood Operations	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00
Hydrometric Monitoring	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Water Quality Monitoring	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Corrective Maintenance	0.00	0.00	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Routine Maintenance	0.00	0.00	0.00	0.04	0.03	0.03	0.03	0.04	0.10	0.13
Asset Management Planning	0.00	0.00	0.00	0.14	0.16	0.14	0.18	0.16	0.47	0.63
Dam Safety Compliance	0.00	0.00	0.00	2.28	4.55	0.73	0.69	0.63	2.06	6.61
Environmental Planning & Protection	0.02	0.01	2.10	0.15	1.22	1.23	12.26	12.10	25.60	26.81
Corporate Systems	0.85	0.10	2.80	1.95	0.99	0.91	1.20	1.02	3.13	4.11
Drought projects (3 dams)	0.00	0.00	7.59	67.96	47.47	1.05	1.05	1.04	3.14	50.61
Drought projects (other)	0.00	0.00	0.06	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Renewals and Replacement	1.18	2.13	3.49	6.85	3.79	14.07	5.25	3.01	22.32	26.12
Dam safety compliance on pre 1997 capital projects	0.15	0.02	0.14	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Structural and other enhancements	0.00	0.10	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Customer support	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Internal corporate projects	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total capex proposed by WNSW	2.21	3.86	16.35	79.59	59.64	19.20	20.66	17.99	57.85	117.50
Atkins/Cardno recommended adjustments for specific programs or projects										
PDMF reallocation from Corporate to Drought projects (3 dams)			0.66	0.12						
Water Delivery & Other Operations - Corporate Systems FY20 miscoding			0.14							
Flood operations - Corporate Systems FY20 miscoding			0.02							
Hydrometric monitoring - Corporate Systems FY20 miscoding			0.17							
Asset management planning - Corporate Systems FY20 miscoding			0.00							
Dam safety compliance pre1997 - Corporate Systems FY20 miscoding			0.07							
Environmental Planning & Protection - Corporate Systems FY20 miscoding			0.02							
Renewals and Replacement - Corporate Systems FY20 miscoding			0.08							
Corporate Systems - Corporate Systems FY20 miscoding			-0.50							
Lake Cargelligo Embankment upgrade reallocation from Renewal and Replacement						-7.72				
Lake Cargelligo Embankment upgrade reallocation to Dam Safety Compliance						7.72				
Lake Cargelligo Embankment upgrade - business case alignment						-1.28			-1.28	-1.28
WYGL Fish Passage Offset adjustment				-0.15	-1.22	-0.43	-6.26	-11.10	-17.80	-19.01
LA Corporate Systems RAB to Salary Allocation adjustment					0.00	0.00	0.00	0.00	0.01	0.01
LA Dam Safety Compliance RAB to Salary Allocation adjustment					0.00	0.00	0.01	0.00	0.01	0.01
LA Asset management planning RAB to Salary Allocation adjustment					0.00	0.00	0.00	0.00	0.00	0.00
LA Routine maintenance RAB to Salary Allocation adjustment					0.00	0.00	0.00	0.00	0.00	0.00
LA Renewals and Replacement RAB to Salary Allocation adjustment					0.00	0.00	0.00	0.00	0.00	0.00
LA - Corporate Scope and Reallocation				0.00	0.08	0.08	0.08	0.08	0.23	0.31
LA - Cold Water Pollution					0.17	0.08	0.00	0.00	0.08	0.25
Sub Total adjustments	0.00	0.00	0.66	-0.03	-0.97	-1.55	-6.18	-11.01	-18.74	-19.71
ADJUSTED EXPENDITURE BEFORE APPLICATION OF EFFICIENCY TARGETS										
Water Delivery & Other Operations	0.00	1.50	0.26	0.21	1.43	1.04	0.00	0.00	1.04	2.47
Flood Operations	0.00	0.00	0.02	0.01	0.00	0.00	0.00	0.00	0.00	0.00
Hydrometric Monitoring	0.00	0.00	0.17	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Water Quality Monitoring	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Corrective Maintenance	0.00	0.00	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Routine Maintenance	0.00	0.00	0.00	0.04	0.03	0.03	0.03	0.04	0.10	0.13
Asset Management Planning	0.00	0.00	0.00	0.14	0.16	0.14	0.17	0.16	0.47	0.63
Dam Safety Compliance	0.00	0.00	0.00	2.28	4.55	7.18	0.70	0.63	8.51	13.06
Environmental Planning & Protection	0.02	0.01	2.12	0.00	0.17	0.88	6.00	1.00	7.88	8.05
Corporate Systems	0.85	0.10	2.30	1.95	1.07	0.99	1.28	1.10	3.37	4.44
Drought projects (3 dams)	0.00	0.00	8.25	68.09	47.47	1.05	1.05	1.04	3.14	50.61
Drought projects (other)	0.00	0.00	0.06	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Renewals and Replacement	1.18	2.13	3.57	6.85	3.79	6.34	5.25	3.01	14.60	18.39
Dam safety compliance on pre 1997 capital projects	0.15	0.02	0.21	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Structural and other enhancements	0.00	0.10	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Customer support	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Internal corporate projects	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total pre-efficiency	2.21	3.86	17.01	79.56	58.68	17.65	14.48	6.98	39.11	97.79
Atkins/Cardno recommended additional capital efficiency targets (beyond those applied by the company)										
Continuing Efficiency (%)				0.00%	0.70%	1.40%	2.09%	2.77%		
Continuing Efficiency (\$M)				0.00	-0.41	-0.25	-0.30	-0.19	-0.74	-1.15
Catch-up efficiency (%)				0.00%	2.11%	4.22%	6.83%	7.44%		
Catch-up efficiency (\$M)				0.00	-1.23	-0.73	-0.97	-0.50	-2.21	-3.44
ATKINS/CARDNO ASSESSMENT OF EFFICIENT EXPENDITURE										
(\$M 2020/21) year ending June	2018	2019	2020	2021	2022	2023	2024	2025	2023-25 Total	2022-25 Total
Water Delivery & Other Operations	0.0	1.5	0.3	0.2	1.4	1.0	0.0	0.0	0.98	2.37
Flood Operations	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00
Hydrometric Monitoring	0.0	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.00	0.00
Water Quality Monitoring	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00
Corrective Maintenance	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00
Routine Maintenance	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.09	0.12
Asset Management Planning	0.0	0.0	0.0	0.1	0.2	0.1	0.2	0.1	0.43	0.59
Dam Safety Compliance	0.0	0.0	0.0	2.3	4.4	6.8	0.6	0.6	7.98	12.41
Environmental Planning & Protection	0.0	0.0	2.1	0.0	0.2	0.8	5.5	0.9	7.21	7.37
Corporate Systems	0.9	0.1	2.3	1.9	1.0	0.9	1.2	1.0	3.09	4.13
Drought projects (3 dams)	0.0	0.0	8.2	68.1	46.1	1.0	1.0	0.9	2.89	49.03
Drought projects (other)	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.00	0.00
Renewals and Replacement	1.2	2.1	3.6	6.8	3.7	6.0	4.8	2.7	13.49	17.17
Dam safety compliance on pre 1997 capital projects	0.2	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.00	0.00
Structural and other enhancements	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00
Customer support	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00
Internal corporate projects	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00
Total Efficient Expenditure	2.2	3.9	17.0	79.6	57.0	16.7	13.2	6.3	36.2	93.2
<i>User Share Capital Expenditure</i>	<i>1.9</i>	<i>3.6</i>	<i>7.1</i>	<i>9.6</i>	<i>9.5</i>	<i>13.6</i>	<i>10.5</i>	<i>4.7</i>	<i>28.9</i>	<i>38.4</i>
<i>Government Share Capital Expenditure</i>	<i>0.3</i>	<i>0.2</i>	<i>10.0</i>	<i>69.9</i>	<i>47.5</i>	<i>3.1</i>	<i>2.7</i>	<i>1.6</i>	<i>7.3</i>	<i>54.8</i>

Table A-10 – Operating Expenditure Lachlan

WATERNSW RURAL BULK WATER PROPOSAL - OPEX - Lachlan Valley											
(\$M 2020/21) year ending June	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
Customer Support	0.10	0.07	0.07	0.06	0.03	0.24	0.14	0.13	0.13	0.14	0.14
Customer Billing	0.10	0.10	0.08	0.07	0.12	-0.04	0.05	0.05	0.05	0.05	0.05
Metering and Compliance	0.47	0.35	0.20	0.25	0.24	0.26	0.28	0.30	0.28	0.28	0.25
Water Delivery and Other Operations	0.67	0.61	0.85	0.80	0.97	1.03	1.20	1.37	1.08	1.22	1.14
Flood Operations	0.14	0.19	0.25	0.07	0.07	0.01	0.19	0.17	0.20	0.20	0.19
Hydrometric Monitoring	0.81	0.78	0.54	1.09	0.95	0.95	0.77	0.77	0.75	0.83	0.81
Water Quality Monitoring	0.04	0.05	0.12	0.06	0.17	0.14	0.22	0.21	0.21	0.22	0.22
Corrective Maintenance	0.38	0.51	0.44	0.44	0.33	0.52	0.42	0.41	0.40	0.43	0.42
Routine Maintenance	1.56	1.35	1.64	1.78	1.86	2.53	2.24	2.26	2.21	2.39	2.53
Asset management planning	0.31	0.25	0.16	0.12	0.06	0.04	0.39	0.47	0.83	0.66	0.52
Dam Safety Compliance Capital Projects pre-1997	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Dam Safety Compliance	0.79	0.69	0.99	0.48	0.53	0.78	0.54	0.54	0.62	0.72	0.67
Environmental Planning and Protection	0.13	0.05	0.01	0.00	0.00	0.00	0.10	0.12	0.09	0.15	0.13
Direct Insurances	0.17	0.00	0.00	0.29	0.90	0.86	0.51	0.51	0.51	0.51	0.51
Renewal and Replacement	0.00	0.00	0.00	0.15	0.03	0.04	0.01	0.01	0.83	0.00	0.00
Corporate Systems	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Internal	0.08	0.00	0.00	0.00	0.00	0.44	0.25	0.24	0.45	0.47	0.46
New Metering and Compliance	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Environmental Delivery	0.00	0.00	0.00	0.02	0.02	0.01	0.00	0.00	0.00	0.00	0.00
Lachlan Valley - Total Operating Expenditure	5.74	5.00	5.35	5.69	6.29	7.81	7.29	7.55	8.63	8.28	8.04
Atkins/Cardno recommended scope adjustments											
Customer Support	0.00	0.00	0.00	0.00	0.00	0.00	0.00	-0.01	0.00	-0.02	-0.02
Customer Billing	0.00	0.00	0.00	0.00	0.00	0.00	0.00	-0.01	0.00	-0.01	-0.01
Metering and Compliance	0.00	0.00	0.00	0.00	0.00	0.00	0.00	-0.03	-0.01	-0.04	-0.03
Water Delivery and Other Operations	0.00	0.00	0.00	0.00	0.00	0.00	0.00	-0.14	-0.04	-0.16	-0.13
Flood Operations	0.00	0.00	0.00	0.00	0.00	0.00	0.00	-0.02	-0.01	-0.03	-0.02
Hydrometric Monitoring	0.00	0.00	0.00	0.00	0.00	0.00	0.00	-0.08	-0.03	-0.11	-0.09
Water Quality Monitoring	0.00	0.00	0.00	0.00	0.00	0.00	0.00	-0.02	-0.01	-0.03	-0.03
Corrective Maintenance	0.00	0.00	0.00	0.00	0.00	0.00	0.00	-0.04	-0.02	-0.06	-0.05
Routine Maintenance	0.00	0.00	0.00	0.00	0.00	0.00	0.00	-0.23	-0.08	-0.32	-0.29
Asset management planning	0.00	0.00	0.00	0.00	0.00	0.00	0.00	-0.05	-0.03	-0.09	-0.06
Dam Safety Compliance Capital Projects pre-1997	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Dam Safety Compliance	0.00	0.00	0.00	0.00	0.00	0.00	0.00	-0.05	-0.02	-0.10	-0.08
Environmental Planning and Protection	0.00	0.00	0.00	0.00	0.00	0.00	0.00	-0.01	0.00	-0.02	-0.01
Direct Insurances	0.00	0.00	0.00	0.00	0.00	0.00	0.00	-0.05	-0.02	-0.07	-0.06
Renewal and Replacement	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	-0.03	0.00	0.00
Corporate Systems	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Internal	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	-0.18	-0.21	-0.20
New Metering and Compliance	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Environmental Delivery	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Sub Total adjustments	0.00	0.00	0.00	0.00	0.00	0.00	0.00	-0.73	-0.48	-1.26	-1.07
Atkins/Cardno recommended efficiency targets											
Continuing Efficiency (%)								0.70%	1.40%	2.09%	2.77%
Continuing Efficiency (\$M)								-0.05	-0.11	-0.15	-0.19
Catch-up efficiency (%)								1.10%	2.19%	3.26%	4.33%
Catch-up efficiency (\$M)								-0.07	-0.18	-0.22	-0.29
ATKINS/CARDNO ASSESSMENT OF EFFICIENT EXPENDITURE											
(\$M 2020/21) year ending June	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
Customer Support	0.10	0.07	0.07	0.06	0.03	0.24	0.14	0.12	0.12	0.11	0.11
Customer Billing	0.10	0.10	0.08	0.07	0.12	-0.04	0.05	0.05	0.05	0.04	0.04
Metering and Compliance	0.47	0.35	0.20	0.25	0.24	0.26	0.28	0.26	0.26	0.23	0.21
Water Delivery and Other Operations	0.67	0.61	0.85	0.80	0.97	1.03	1.20	1.21	1.00	1.00	0.94
Flood Operations	0.14	0.19	0.25	0.07	0.07	0.01	0.19	0.15	0.19	0.16	0.15
Hydrometric Monitoring	0.81	0.78	0.54	1.09	0.95	0.95	0.77	0.68	0.69	0.68	0.66
Water Quality Monitoring	0.04	0.05	0.12	0.06	0.17	0.14	0.22	0.19	0.19	0.18	0.18
Corrective Maintenance	0.38	0.51	0.44	0.44	0.33	0.52	0.42	0.36	0.38	0.35	0.35
Routine Maintenance	1.56	1.35	1.64	1.78	1.86	2.53	2.24	1.99	2.05	1.96	2.09
Asset management planning	0.31	0.25	0.16	0.12	0.06	0.04	0.39	0.42	0.77	0.54	0.43
Dam Safety Compliance Capital Projects pre-1997	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Dam Safety Compliance	0.79	0.69	0.99	0.48	0.53	0.78	0.54	0.47	0.58	0.59	0.55
Environmental Planning and Protection	0.13	0.05	0.01	0.00	0.00	0.00	0.10	0.10	0.08	0.12	0.10
Direct Insurances	0.17	0.00	0.00	0.29	0.90	0.86	0.51	0.45	0.47	0.41	0.42
Renewal and Replacement	0.00	0.00	0.00	0.15	0.03	0.04	0.01	0.00	0.77	0.00	0.00
Corporate Systems	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Internal	0.08	0.00	0.00	0.00	0.00	0.44	0.25	0.25	0.26	0.25	0.24
New Metering and Compliance	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Environmental Delivery	0.00	0.00	0.00	0.02	0.02	0.01	0.00	0.00	0.00	0.00	0.00
Total Efficient Expenditure	5.74	5.00	5.35	5.69	6.29	7.81	7.29	6.70	7.86	6.65	6.48

A.6. Macquarie

Table A-11 - Capital Expenditure Macquarie

WATERNSW RURAL BULK WATER PROPOSAL - CAPEX - MACQUARIE										
(\$M 2020/21) year ending June	2018	2019	2020	2021	2022	2023	2024	2025	2023-25 Total	2022-25 Total
Water Delivery & Other Operations	0.02	1.52	0.14	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Flood Operations	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00
Hydrometric Monitoring	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Water Quality Monitoring	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Corrective Maintenance	1.51	0.32	-1.72	0.09	0.00	0.00	0.00	0.00	0.00	0.00
Routine Maintenance	0.00	0.00	0.00	0.03	0.02	0.02	0.02	0.03	0.08	0.10
Asset Management Planning	0.00	0.00	0.17	0.11	0.12	0.11	0.14	0.12	0.36	0.49
Dam Safety Compliance	0.00	0.00	0.00	0.12	0.32	0.65	1.02	0.31	1.99	2.31
Environmental Planning & Protection	-0.01	0.00	0.00	0.15	0.55	0.56	6.07	5.98	12.61	13.16
Corporate Systems	0.69	-0.31	1.09	1.91	0.76	0.70	1.62	1.18	3.50	4.26
Drought projects (3 dams)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Drought projects (other)	0.00	0.00	9.13	3.87	0.40	0.41	0.40	0.40	1.21	1.61
Renewals and Replacement	1.85	2.04	2.56	4.39	2.51	3.51	3.41	2.60	9.52	12.03
Dam safety compliance on pre 1997 capital projects	0.09	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Structural and other enhancements	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Customer support	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Internal corporate projects	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total capex proposed by WNSW	4.15	3.61	11.37	10.68	4.69	5.95	12.68	10.64	29.27	33.96
Atkins/Cardno recommended adjustments for specific programs or projects										
PDMP reallocation from Corporate to Drought projects (3 dams)			-0.28	-0.05						
Water Delivery & Other Operations - Corporate Systems FY20 miscoding			0.05							
Flood operations - Corporate Systems FY20 miscoding			0.01							
Hydrometric monitoring - Corporate Systems FY20 miscoding			0.07							
Asset management planning - Corporate Systems FY20 miscoding			0.00							
Dam safety compliance pre1997 - Corporate Systems FY20 miscoding			0.03							
Environmental Planning & Protection - Corporate Systems FY20 miscoding			0.01							
Renewals and Replacement - Corporate Systems FY20 miscoding			0.03							
Corporate Systems - Corporate Systems FY20 miscoding			-0.20							
BNDG Fish Passage Offsets adjustment				-0.15	0.45	3.94	-5.37	-3.78	-5.21	-4.76
MA Corporate Systems RAB to Salary Allocation adjustment					0.15	0.13	0.13	0.09	0.35	0.50
MA Dam Safety Compliance RAB to Salary Allocation adjustment					0.05	0.05	0.07	0.05	0.17	0.22
MA Asset management planning RAB to Salary Allocation adjustment					0.02	0.02	0.02	0.02	0.05	0.07
MA Routine maintenance RAB to Salary Allocation adjustment					0.00	0.00	0.00	0.01	0.01	0.02
MA Renewals and Replacement RAB to Salary Allocation adjustment					0.00	0.00	0.00	0.00	0.00	0.00
MA - Corporate Scope and Reallocation				0.00	0.07	0.07	0.07	0.07	0.22	0.29
Sub Total adjustments	0.00	0.00	-0.28	-0.21	0.74	4.21	-5.07	-3.55	-4.41	-3.87
ADJUSTED EXPENDITURE BEFORE APPLICATION OF EFFICIENCY TARGETS										
Water Delivery & Other Operations	0.02	1.52	0.20	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Flood Operations	0.00	0.00	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00
Hydrometric Monitoring	0.00	0.00	0.07	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Water Quality Monitoring	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Corrective Maintenance	1.51	0.32	-1.72	0.09	0.00	0.00	0.00	0.00	0.00	0.00
Routine Maintenance	0.00	0.00	0.00	0.03	0.03	0.03	0.03	0.04	0.09	0.12
Asset Management Planning	0.00	0.00	0.17	0.11	0.15	0.12	0.15	0.14	0.41	0.56
Dam Safety Compliance	0.00	0.00	0.00	0.12	0.37	0.70	1.10	0.36	2.16	2.53
Environmental Planning & Protection	-0.01	0.00	0.01	0.00	1.00	4.50	0.70	2.20	7.40	8.40
Corporate Systems	0.69	-0.31	0.61	1.86	0.98	0.90	1.82	1.35	4.07	5.05
Drought projects (3 dams)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Drought projects (other)	0.00	0.00	9.13	3.87	0.40	0.41	0.40	0.40	1.21	1.61
Renewals and Replacement	1.85	2.04	2.59	4.39	2.51	3.51	3.41	2.60	9.52	12.03
Dam safety compliance on pre 1997 capital projects	0.09	0.03	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Structural and other enhancements	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Customer support	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Internal corporate projects	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total pre-efficiency	4.15	3.61	11.09	10.47	5.43	10.17	7.61	7.08	24.86	30.30
Atkins/Cardno recommended additional capital efficiency targets (beyond those applied by the company)										
Continuing Efficiency (%)				0.00%	0.70%	1.40%	2.09%	2.77%		
Continuing Efficiency (\$M)				0.00	-0.04	-0.14	-0.16	-0.20	-0.50	-0.53
Catch-up efficiency (%)				0.00%	2.11%	4.22%	6.83%	7.44%		
Catch-up efficiency (\$M)				0.00	-0.11	-0.42	-0.51	-0.51	-1.44	-1.56
ATKINS/CARDNO ASSESSMENT OF EFFICIENT EXPENDITURE										
(\$M 2020/21) year ending June	2018	2019	2020	2021	2022	2023	2024	2025	2023-25 Total	2022-25 Total
Water Delivery & Other Operations	0.0	1.5	0.2	0.0	0.0	0.0	0.0	0.0	0.00	0.00
Flood Operations	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00
Hydrometric Monitoring	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.00	0.00
Water Quality Monitoring	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00
Corrective Maintenance	1.5	0.3	-1.7	0.1	0.0	0.0	0.0	0.0	0.00	0.00
Routine Maintenance	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.09	0.11
Asset Management Planning	0.0	0.0	0.2	0.1	0.1	0.1	0.1	0.1	0.38	0.52
Dam Safety Compliance	0.0	0.0	0.0	0.1	0.4	0.7	1.0	0.3	1.98	2.34
Environmental Planning & Protection	0.0	0.0	0.0	0.0	1.0	4.3	0.6	2.0	6.87	7.84
Corporate Systems	0.7	-0.3	0.6	1.9	0.9	0.9	1.7	1.2	3.73	4.68
Drought projects (3 dams)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00
Drought projects (other)	0.0	0.0	9.1	3.9	0.4	0.4	0.4	0.4	1.11	1.50
Renewals and Replacement	1.8	2.0	2.6	4.4	2.4	3.3	3.1	2.3	8.77	11.20
Dam safety compliance on pre 1997 capital projects	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00
Structural and other enhancements	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00
Customer support	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00
Internal corporate projects	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00
Total Efficient Expenditure	4.1	3.6	11.1	10.5	5.3	9.6	6.9	6.4	22.9	28.2
User Share Capital Expenditure	3.9	3.4	1.7	6.1	4.3	7.9	5.8	5.2	18.8	23.1
Government Share Capital Expenditure	0.3	0.2	9.4	4.4	1.0	1.7	1.2	1.2	4.1	5.1

Table A-12 – Operating Expenditure Macquarie

WATERNSW RURAL BULK WATER PROPOSAL - OPEX - Macquarie Valley											
(\$M 2020/21) year ending June	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
Customer Support	0.10	0.09	0.07	0.04	0.04	0.24	0.17	0.17	0.16	0.17	0.17
Customer Billing	0.11	0.11	0.08	0.07	0.13	-0.03	0.05	0.05	0.05	0.05	0.05
Metering and Compliance	0.46	0.38	0.28	0.20	0.14	0.17	0.10	0.10	0.09	0.09	0.09
Water Delivery and Other Operations	0.90	0.89	0.58	0.61	0.91	0.97	0.95	0.94	0.86	0.97	0.92
Flood Operations	0.06	0.02	0.09	0.06	0.08	0.10	0.19	0.17	0.20	0.20	0.19
Hydrometric Monitoring	0.65	0.62	0.96	0.89	0.87	0.81	0.59	0.58	0.57	0.64	0.62
Water Quality Monitoring	0.05	0.07	0.09	0.03	0.15	0.11	0.06	0.06	0.06	0.06	0.06
Corrective Maintenance	0.40	0.40	1.35	0.21	0.49	0.26	0.12	0.11	0.11	0.12	0.12
Routine Maintenance	1.14	1.36	1.27	1.55	1.96	2.47	2.47	2.43	2.41	2.60	2.68
Asset management planning	0.46	0.39	0.26	0.17	0.05	-0.01	0.27	0.22	0.53	0.44	0.38
Dam Safety Compliance Capital Projects pre-1997	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Dam Safety Compliance	0.49	0.42	0.31	0.38	0.34	0.33	0.44	0.41	0.68	0.88	0.63
Environmental Planning and Protection	0.22	0.09	0.01	0.00	0.00	0.00	0.07	0.06	0.05	0.10	0.08
Direct Insurances	0.28	0.00	0.00	0.40	0.96	0.89	0.53	0.53	0.53	0.53	0.53
Renewal and Replacement	0.01	0.00	0.12	0.24	0.03	0.02	0.00	0.00	0.00	0.00	0.00
Corporate Systems	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Internal	0.08	0.00	0.00	0.00	0.00	0.97	0.39	0.38	0.65	0.68	0.67
New Metering and Compliance	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Environmental Delivery	0.00	0.00	0.00	0.05	0.04	0.01	0.09	0.08	0.08	0.08	0.08
Macquarie Valley - Total Operating Expenditure	5.42	4.83	5.48	4.89	6.17	7.30	6.50	6.30	7.05	7.62	7.26
Atkins/Cardno recommended scope adjustments											
Customer Support	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	-0.01	-0.01
Customer Billing	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Metering and Compliance	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	-0.01	0.00
Water Delivery and Other Operations	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.01	-0.07	-0.05
Flood Operations	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	-0.01	-0.01
Hydrometric Monitoring	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.01	-0.04	-0.03
Water Quality Monitoring	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Corrective Maintenance	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	-0.01	-0.01
Routine Maintenance	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.03	-0.18	-0.14
Asset management planning	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	-0.03	-0.02
Dam Safety Compliance Capital Projects pre-1997	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Dam Safety Compliance	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	-0.06	-0.03
Environmental Planning and Protection	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	-0.01	0.00
Direct Insurances	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	-0.04	-0.03
Renewal and Replacement	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Corporate Systems	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Internal	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07	-0.24	-0.28	-0.27
New Metering and Compliance	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Environmental Delivery	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	-0.01	0.00
Sub Total adjustments	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.12	-0.17	-0.76	-0.60
Atkins/Cardno recommended efficiency targets											
Continuing Efficiency (%)								0.70%	1.40%	2.09%	2.77%
Continuing Efficiency (\$M)								-0.04	-0.10	-0.14	-0.18
Catch-up efficiency (%)								1.10%	2.19%	3.26%	4.33%
Catch-up efficiency (\$M)								-0.07	-0.15	-0.22	-0.28
ATKINS/CARDNO ASSESSMENT OF EFFICIENT EXPENDITURE											
(\$M 2020/21) year ending June	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
Customer Support	0.10	0.09	0.07	0.04	0.04	0.24	0.17	0.17	0.16	0.15	0.15
Customer Billing	0.11	0.11	0.08	0.07	0.13	-0.03	0.05	0.05	0.05	0.04	0.04
Metering and Compliance	0.46	0.38	0.28	0.20	0.14	0.17	0.10	0.10	0.09	0.08	0.08
Water Delivery and Other Operations	0.90	0.89	0.58	0.61	0.91	0.97	0.95	0.93	0.84	0.85	0.81
Flood Operations	0.06	0.02	0.09	0.06	0.08	0.10	0.19	0.17	0.19	0.17	0.17
Hydrometric Monitoring	0.65	0.62	0.96	0.89	0.87	0.81	0.59	0.58	0.56	0.56	0.55
Water Quality Monitoring	0.05	0.07	0.09	0.03	0.15	0.11	0.06	0.06	0.06	0.06	0.05
Corrective Maintenance	0.40	0.40	1.35	0.21	0.49	0.26	0.12	0.11	0.11	0.11	0.10
Routine Maintenance	1.14	1.36	1.27	1.55	1.96	2.47	2.47	2.41	2.35	2.30	2.36
Asset management planning	0.46	0.39	0.26	0.17	0.05	-0.01	0.27	0.22	0.52	0.39	0.34
Dam Safety Compliance Capital Projects pre-1997	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Dam Safety Compliance	0.49	0.42	0.31	0.38	0.34	0.33	0.44	0.41	0.67	0.78	0.55
Environmental Planning and Protection	0.22	0.09	0.01	0.00	0.00	0.00	0.07	0.06	0.05	0.08	0.07
Direct Insurances	0.28	0.00	0.00	0.40	0.96	0.89	0.53	0.53	0.52	0.47	0.47
Renewal and Replacement	0.01	0.00	0.12	0.24	0.03	0.02	0.00	0.00	0.00	0.00	0.00
Corporate Systems	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Internal	0.08	0.00	0.00	0.00	0.00	0.97	0.39	0.45	0.39	0.38	0.37
New Metering and Compliance	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Environmental Delivery	0.00	0.00	0.00	0.05	0.04	0.01	0.09	0.08	0.08	0.07	0.07
Total Efficient Expenditure	5.42	4.83	5.48	4.89	6.17	7.30	6.50	6.31	6.63	6.50	6.19

A.7. Murray

Table A-13 - Capital Expenditure Murray

WATERSNSW RURAL BULK WATER PROPOSAL - CAPEX - MURRAY										
(\$M 2020/21) year ending June	2018	2019	2020	2021	2022	2023	2024	2025	2023-25 Total	2022-25 Total
Water Delivery & Other Operations	0.00	1.13	0.08	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Flood Operations	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hydrometric Monitoring	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Water Quality Monitoring	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Corrective Maintenance	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Routine Maintenance	0.00	0.00	0.00	0.01	0.01	0.01	0.01	0.02	0.04	0.05
Asset Management Planning	0.00	0.00	0.00	0.06	0.06	0.05	0.07	0.06	0.18	0.24
Dam Safety Compliance	0.00	0.00	0.00	8.04	1.02	7.28	0.17	0.10	7.55	8.57
Environmental Planning & Protection	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Corporate Systems	0.36	0.00	3.25	1.08	0.53	0.35	1.18	0.94	2.47	3.00
Drought projects (3 dams)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Drought projects (other)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Renewals and Replacement	0.05	0.62	1.63	3.63	1.41	1.45	2.78	1.52	5.76	7.17
Dam safety compliance on pre 1997 capital projects	0.07	0.93	-0.79	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Structural and other enhancements	0.00	0.00	0.01	0.20	0.00	0.00	0.00	0.00	0.00	0.00
Customer support	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Internal corporate projects	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total capex proposed by WNSW	0.47	2.69	4.18	13.01	3.03	9.15	4.22	2.63	16.00	19.03
Atkins/Cardno recommended adjustments for specific programs or projects										
PDMP reallocation from Corporate to Drought projects (3 dams)			-0.18	-0.03						
Water Delivery & Other Operations - Corporate Systems FY20 miscoding			0.16							
Flood operations - Corporate Systems FY20 miscoding			0.02							
Hydrometric monitoring - Corporate Systems FY20 miscoding			0.20							
Asset management planning - Corporate Systems FY20 miscoding			0.01							
Dam safety compliance pre1997 - Corporate Systems FY20 miscoding			0.08							
Environmental Planning & Protection - Corporate Systems FY20 miscoding			0.02							
Renewals and Replacement - Corporate Systems FY20 miscoding			0.10							
Corporate Systems - Corporate Systems FY20 miscoding			-0.59							
MR Corporate Systems RAB to Salary Allocation adjustment					0.20	0.18	0.18	0.12	0.48	0.68
MR Dam Safety Compliance RAB to Salary Allocation adjustment					0.07	0.07	0.10	0.06	0.23	0.29
MR Asset management planning RAB to Salary Allocation adjustment					0.03	0.02	0.02	0.02	0.07	0.10
MR Routine maintenance RAB to Salary Allocation adjustment					0.01	0.01	0.01	0.01	0.02	0.03
MR Renewals and Replacement RAB to Salary Allocation adjustment					0.00	0.00	0.00	0.00	0.00	0.00
MR - Corporate Scope and Reallocation				0.00	0.05	0.05	0.05	0.05	0.14	0.19
Sub Total adjustments	0.00	0.00	-0.18	-0.03	0.35	0.33	0.35	0.26	0.94	1.29
ADJUSTED EXPENDITURE BEFORE APPLICATION OF EFFICIENCY TARGETS										
Water Delivery & Other Operations	0.00	1.13	0.24	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Flood Operations	0.00	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hydrometric Monitoring	0.00	0.00	0.20	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Water Quality Monitoring	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Corrective Maintenance	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Routine Maintenance	0.00	0.00	0.00	0.01	0.02	0.02	0.02	0.02	0.06	0.08
Asset Management Planning	0.00	0.00	0.01	0.06	0.09	0.08	0.09	0.08	0.25	0.34
Dam Safety Compliance	0.00	0.00	0.00	8.04	1.08	7.35	0.27	0.16	7.78	8.86
Environmental Planning & Protection	0.00	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Corporate Systems	0.36	0.00	2.49	1.05	0.78	0.58	1.41	1.11	3.10	3.87
Drought projects (3 dams)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Drought projects (other)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Renewals and Replacement	0.05	0.62	1.73	3.63	1.41	1.45	2.78	1.52	5.76	7.17
Dam safety compliance on pre 1997 capital projects	0.07	0.93	-0.71	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Structural and other enhancements	0.00	0.00	0.01	0.20	0.00	0.00	0.00	0.00	0.00	0.00
Customer support	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Internal corporate projects	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total pre-efficiency	0.47	2.69	4.01	12.98	3.38	9.48	4.57	2.90	16.94	20.32
Atkins/Cardno recommended additional capital efficiency targets (beyond those applied by the company)										
Continuing Efficiency (%)				0.00%	0.70%	1.40%	2.09%	2.77%		
Continuing Efficiency (\$M)				0.00	-0.02	-0.13	-0.10	-0.08	-0.31	-0.33
Catch-up efficiency (%)				0.00%	2.11%	4.22%	6.83%	7.44%		
Catch-up efficiency (\$M)				0.00	-0.07	-0.39	-0.31	-0.21	-0.91	-0.98
ATKINS/CARDNO ASSESSMENT OF EFFICIENT EXPENDITURE										
(\$M 2020/21) year ending June	2018	2019	2020	2021	2022	2023	2024	2025	2023-25 Total	2022-25 Total
Water Delivery & Other Operations	0.0	1.1	0.2	0.0	0.0	0.0	0.0	0.0	0.00	0.00
Flood Operations	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00
Hydrometric Monitoring	0.0	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.00	0.00
Water Quality Monitoring	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00
Corrective Maintenance	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00
Routine Maintenance	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.05	0.07
Asset Management Planning	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.23	0.32
Dam Safety Compliance	0.0	0.0	0.0	8.0	1.1	6.9	0.2	0.1	7.33	8.38
Environmental Planning & Protection	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00
Corporate Systems	0.4	0.0	2.5	1.0	0.8	0.5	1.3	1.0	2.83	3.59
Drought projects (3 dams)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00
Drought projects (other)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00
Renewals and Replacement	0.1	0.6	1.7	3.6	1.4	1.4	2.5	1.4	5.28	6.65
Dam safety compliance on pre 1997 capital projects	0.1	0.9	-0.7	0.0	0.0	0.0	0.0	0.0	0.00	0.00
Structural and other enhancements	0.0	0.0	0.0	0.2	0.0	0.0	0.0	0.0	0.00	0.00
Customer support	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00
Internal corporate projects	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00
Total Efficient Expenditure	0.5	2.7	4.0	13.0	3.3	8.9	4.2	2.6	15.7	19.0
User Share Capital Expenditure	0.4	1.7	4.5	8.6	2.9	7.4	3.7	2.3	13.4	16.3
Government Share Capital Expenditure	0.1	1.0	-0.5	4.4	0.4	1.6	0.4	0.3	2.3	2.7

Table A-14 – Operating Expenditure Murray

WATERNSW RURAL BULK WATER PROPOSAL - OPEX - Murray Valley

(\$M 2020/21) year ending June	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
Customer Support	0.15	0.15	0.09	0.09	0.05	0.21	0.18	0.17	0.17	0.17	0.17
Customer Billing	0.15	0.15	0.13	0.12	0.21	-0.09	0.11	0.10	0.10	0.10	0.10
Metering and Compliance	1.14	0.86	0.54	0.68	0.60	0.49	0.65	0.66	0.61	0.60	0.55
Water Delivery and Other Operations	0.54	0.49	0.41	1.14	0.78	0.94	1.43	1.05	1.00	1.01	0.98
Flood Operations	0.00	0.00	0.10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hydrometric Monitoring	0.01	0.03	0.28	0.20	0.18	0.23	0.09	0.06	0.05	0.06	0.05
Water Quality Monitoring	0.01	0.01	0.01	0.02	0.12	0.06	0.08	0.08	0.08	0.08	0.08
Corrective Maintenance	0.01	0.01	0.02	0.02	0.01	0.02	0.12	0.12	0.12	0.13	0.13
Routine Maintenance	0.69	0.80	0.91	0.94	0.96	1.22	0.93	0.86	0.84	0.89	0.91
Asset management planning	0.42	0.35	0.23	0.15	0.07	0.05	0.44	0.18	0.49	0.21	0.14
Dam Safety Compliance Capital Projects pre-1997	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Dam Safety Compliance	0.09	0.04	0.06	0.21	0.11	0.48	0.34	0.29	0.30	0.33	0.33
Environmental Planning and Protection	0.21	0.42	0.10	0.00	0.00	0.00	0.10	0.04	0.03	0.03	0.03
Direct Insurances	0.14	0.02	0.03	0.10	0.56	0.64	0.38	0.38	0.38	0.38	0.38
Renewal and Replacement	0.00	0.00	0.00	0.07	0.00	0.00	0.01	0.00	0.00	0.00	0.00
Corporate Systems	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Internal	0.05	0.00	0.00	0.02	0.00	0.85	0.25	0.23	0.43	0.45	0.44
New Metering and Compliance	0.05	0.07	0.15	0.02	0.01	0.03	0.00	0.00	0.00	0.00	0.00
Environmental Delivery	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Strutural and other enhancements	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Murray Valley - Total Operating Expenditure	3.65	3.41	3.05	3.79	3.66	5.12	5.10	4.23	4.60	4.44	4.27
Atkins/Cardno recommended scope adjustments											
Customer Support	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01
Customer Billing	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Metering and Compliance	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.01	0.02
Water Delivery and Other Operations	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.02	0.04
Flood Operations	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hydrometric Monitoring	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Water Quality Monitoring	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Corrective Maintenance	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01
Routine Maintenance	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.01	0.04
Asset management planning	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.01
Dam Safety Compliance Capital Projects pre-1997	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Dam Safety Compliance	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.01	0.01
Environmental Planning and Protection	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Direct Insurances	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.01	0.02
Renewal and Replacement	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Corporate Systems	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Internal	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.04	-0.19	-0.19	-0.18
New Metering and Compliance	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Environmental Delivery	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Strutural and other enhancements	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Sub Total adjustments	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03	-0.06	-0.13	-0.01
Atkins/Cardno recommended efficiency targets											
Continuing Efficiency (%)								0.70%	1.40%	2.09%	2.77%
Continuing Efficiency (\$M)								-0.03	-0.06	-0.09	-0.12
Catch-up efficiency (%)								1.10%	2.19%	3.26%	4.33%
Catch-up efficiency (\$M)								-0.05	-0.10	-0.14	-0.18

ATKINS/CARDNO ASSESSMENT OF EFFICIENT EXPENDITURE

(\$M 2020/21) year ending June	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
Customer Support	0.15	0.15	0.09	0.09	0.05	0.21	0.18	0.17	0.17	0.17	0.16
Customer Billing	0.15	0.15	0.13	0.12	0.21	-0.09	0.11	0.10	0.10	0.09	0.09
Metering and Compliance	1.14	0.86	0.54	0.68	0.60	0.49	0.65	0.65	0.60	0.58	0.53
Water Delivery and Other Operations	0.54	0.49	0.41	1.14	0.78	0.94	1.43	1.03	0.99	0.98	0.95
Flood Operations	0.00	0.00	0.10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hydrometric Monitoring	0.01	0.03	0.28	0.20	0.18	0.23	0.09	0.06	0.05	0.05	0.05
Water Quality Monitoring	0.01	0.01	0.01	0.02	0.12	0.06	0.08	0.08	0.08	0.08	0.08
Corrective Maintenance	0.01	0.01	0.02	0.02	0.01	0.02	0.12	0.12	0.12	0.12	0.12
Routine Maintenance	0.69	0.80	0.91	0.94	0.96	1.22	0.93	0.84	0.84	0.85	0.88
Asset management planning	0.42	0.35	0.23	0.15	0.07	0.05	0.44	0.18	0.49	0.20	0.13
Dam Safety Compliance Capital Projects pre-1997	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Dam Safety Compliance	0.09	0.04	0.06	0.21	0.11	0.48	0.34	0.28	0.30	0.32	0.32
Environmental Planning and Protection	0.21	0.42	0.10	0.00	0.00	0.00	0.10	0.04	0.03	0.03	0.03
Direct Insurances	0.14	0.02	0.03	0.10	0.56	0.64	0.38	0.37	0.38	0.37	0.37
Renewal and Replacement	0.00	0.00	0.00	0.07	0.00	0.00	0.01	0.00	0.00	0.00	0.00
Corporate Systems	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Internal	0.05	0.00	0.00	0.02	0.00	0.85	0.25	0.27	0.24	0.25	0.24
New Metering and Compliance	0.05	0.07	0.15	0.02	0.01	0.03	0.00	0.00	0.00	0.00	0.00
Environmental Delivery	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Strutural and other enhancements	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total Efficient Expenditure	3.65	3.41	3.05	3.79	3.66	5.12	5.10	4.19	4.37	4.09	3.96

A.8. Murrumbidgee

Table A-15 - Capital Expenditure Murrumbidgee

WATERSNSW RURAL BULK WATER PROPOSAL - CAPEX - MURRUMBIDGEE										
(\$M 2020/21) year ending June	2018	2019	2020	2021	2022	2023	2024	2025	2023-25 Total	2022-25 Total
Water Delivery & Other Operations	0.00	1.29	0.08	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Flood Operations	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00
Hydrometric Monitoring	0.03	0.17	0.10	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Water Quality Monitoring	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Corrective Maintenance	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Routine Maintenance	0.00	0.00	0.06	0.04	0.03	0.04	0.04	0.05	0.12	0.15
Asset Management Planning	4.50	1.09	-5.45	0.17	0.19	0.16	0.20	0.18	0.54	0.73
Dam Safety Compliance	0.00	0.00	0.00	0.18	0.51	0.72	1.35	1.54	3.61	4.12
Environmental Planning & Protection	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Corporate Systems	0.99	0.00	0.22	2.40	1.21	1.05	1.72	1.27	4.04	5.25
Drought projects (3 dams)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Drought projects (other)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Renewals and Replacement	3.29	3.60	14.58	15.25	6.12	6.69	6.23	6.11	19.03	25.14
Dam safety compliance on pre 1997 capital projects	0.05	0.02	0.15	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Structural and other enhancements	0.27	1.49	0.43	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Customer support	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Internal corporate projects	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total capex proposed by WNSW	9.14	7.65	10.16	18.05	8.06	8.64	9.55	9.15	27.34	35.39
Atkins/Cardno recommended adjustments for specific programs or projects										
PDMP reallocation from Corporate to Drought projects (3 dams)			-0.44	-0.08						
Water Delivery & Other Operations - Corporate Systems FY20 miscoding			0.01							
Flood operations - Corporate Systems FY20 miscoding			0.00							
Hydrometric monitoring - Corporate Systems FY20 miscoding			0.01							
Asset management planning - Corporate Systems FY20 miscoding			0.00							
Dam safety compliance pre1997 - Corporate Systems FY20 miscoding			0.01							
Environmental Planning & Protection - Corporate Systems FY20 miscoding			0.00							
Renewals and Replacement - Corporate Systems FY20 miscoding			0.01							
Corporate Systems - Corporate Systems FY20 miscoding			-0.04							
MB Corporate Systems RAB to Salary Allocation adjustment					0.21	0.19	0.19	0.13	0.51	0.72
MB Dam Safety Compliance RAB to Salary Allocation adjustment					0.07	0.07	0.11	0.07	0.25	0.32
MB Asset management planning RAB to Salary Allocation adjustment					0.03	0.03	0.02	0.02	0.07	0.11
MB Routine maintenance RAB to Salary Allocation adjustment					0.01	0.01	0.01	0.01	0.02	0.03
MB Renewals and Replacement RAB to Salary Allocation adjustment					0.00	0.00	0.00	0.00	0.00	0.00
MB - Corporate Scope and Reallocation				0.00	0.11	0.11	0.11	0.11	0.33	0.44
MB - Cold Water Pollution					0.08	0.04	0.00	0.00	0.04	0.13
MB - Renewals provision adjustment for Yanco Weir								-4.43	-4.43	-4.43
Sub Total adjustments	0.00	0.00	-0.44	-0.08	0.52	0.45	0.44	-4.09	-3.20	-2.69
ADJUSTED EXPENDITURE BEFORE APPLICATION OF EFFICIENCY TARGETS										
Water Delivery & Other Operations	0.00	1.29	0.09	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Flood Operations	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00
Hydrometric Monitoring	0.03	0.17	0.11	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Water Quality Monitoring	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Corrective Maintenance	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Routine Maintenance	0.00	0.00	0.06	0.04	0.04	0.04	0.04	0.06	0.14	0.18
Asset Management Planning	4.50	1.09	-5.45	0.17	0.22	0.18	0.23	0.21	0.62	0.83
Dam Safety Compliance	0.00	0.00	0.00	0.18	0.58	0.79	1.46	1.60	3.85	4.43
Environmental Planning & Protection	0.00	0.00	0.00	0.00	0.08	0.04	0.00	0.00	0.04	0.13
Corporate Systems	0.99	0.00	-0.26	2.32	1.53	1.35	2.02	1.51	4.88	6.41
Drought projects (3 dams)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Drought projects (other)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Renewals and Replacement	3.29	3.60	14.59	15.25	6.12	6.69	6.23	1.68	14.60	20.72
Dam safety compliance on pre 1997 capital projects	0.05	0.02	0.15	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Structural and other enhancements	0.27	1.49	0.43	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Customer support	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Internal corporate projects	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total pre-efficiency	9.14	7.65	9.72	17.97	8.57	9.09	9.98	5.06	24.13	32.70
Atkins/Cardno recommended additional capital efficiency targets (beyond those applied by the company)										
Continuing Efficiency (%)				0.00%	0.70%	1.40%	2.09%	2.77%		
Continuing Efficiency (\$M)				0.00	-0.06	-0.13	-0.21	-0.14	-0.48	-0.54
Catch-up efficiency (%)				0.00%	2.11%	4.22%	6.83%	7.44%		
Catch-up efficiency (\$M)				0.00	-0.18	-0.38	-0.67	-0.37	-1.41	-1.59
ATKINS/CARDNO ASSESSMENT OF EFFICIENT EXPENDITURE										
(\$M 2020/21) year ending June	2018	2019	2020	2021	2022	2023	2024	2025	2023-25 Total	2022-25 Total
Water Delivery & Other Operations	0.0	1.3	0.1	0.0	0.0	0.0	0.0	0.0	0.00	0.00
Flood Operations	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00
Hydrometric Monitoring	0.0	0.2	0.1	0.0	0.0	0.0	0.0	0.0	0.00	0.00
Water Quality Monitoring	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00
Corrective Maintenance	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00
Routine Maintenance	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.1	0.13	0.17
Asset Management Planning	4.5	1.1	-5.4	0.2	0.2	0.2	0.2	0.2	0.56	0.78
Dam Safety Compliance	0.0	0.0	0.0	0.2	0.6	0.7	1.3	1.4	3.52	4.08
Environmental Planning & Protection	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.04	0.12
Corporate Systems	1.0	0.0	-0.3	2.3	1.5	1.3	1.8	1.4	4.48	5.97
Drought projects (3 dams)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00
Drought projects (other)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00
Renewals and Replacement	3.3	3.6	14.6	15.3	5.9	6.3	5.7	1.5	13.52	19.46
Dam safety compliance on pre 1997 capital projects	0.1	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.00	0.00
Structural and other enhancements	0.3	1.5	0.4	0.0	0.0	0.0	0.0	0.0	0.00	0.00
Customer support	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00
Internal corporate projects	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00
Total Efficient Expenditure	9.1	7.7	9.7	18.0	8.3	8.6	9.1	4.6	22.2	30.6
User Share Capital Expenditure	8.8	7.3	8.1	16.3	7.6	7.8	8.2	3.9	19.9	27.5
Government Share Capital Expenditure	0.4	0.4	1.6	1.6	0.7	0.7	0.9	0.6	2.3	3.1

Table A-16 – Operating Expenditure Murrumbidgee

WATERNSW RURAL BULK WATER PROPOSAL - OPEX - Murrumbidgee Valley											
(\$M 2020/21) year ending June	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
Customer Support	0.12	0.11	0.07	0.15	0.26	0.18	0.18	0.18	0.17	0.18	0.18
Customer Billing	0.12	0.12	0.11	0.10	0.19	0.47	0.18	0.19	0.18	0.18	0.17
Metering and Compliance	0.58	0.44	0.42	0.48	0.54	0.39	0.49	0.50	0.44	0.43	0.39
Water Delivery and Other Operations	1.40	0.95	0.99	0.95	0.95	1.19	1.72	1.43	1.32	1.26	1.20
Flood Operations	0.04	0.02	0.19	0.07	0.09	0.01	0.25	0.23	0.27	0.27	0.25
Hydrometric Monitoring	1.31	1.55	2.38	1.75	1.20	1.41	1.11	1.07	1.05	1.13	1.10
Water Quality Monitoring	0.02	0.04	0.08	0.05	0.08	0.04	0.13	0.13	0.13	0.13	0.13
Corrective Maintenance	0.78	0.85	0.66	0.56	0.73	1.40	0.69	0.68	0.67	0.72	0.70
Routine Maintenance	1.98	1.89	2.43	2.82	2.54	3.25	2.50	2.42	2.40	2.52	2.57
Asset management planning	0.59	0.51	0.47	0.28	0.16	0.07	0.60	0.37	0.76	0.49	0.43
Dam Safety Compliance Capital Projects pre-1997	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Dam Safety Compliance	0.74	0.65	0.54	0.88	0.52	0.75	0.68	0.57	0.82	0.82	0.74
Environmental Planning and Protection	0.25	0.11	0.01	0.00	0.02	0.00	0.15	0.09	0.08	0.08	0.07
Direct Insurances	0.30	0.00	0.00	0.68	1.55	1.44	0.85	0.85	0.85	0.85	0.85
Renewal and Replacement	0.00	0.00	0.00	0.06	0.00	0.06	0.01	0.00	0.00	0.00	0.00
Corporate Systems	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Internal	0.12	0.00	0.00	0.00	0.00	0.21	0.22	0.21	0.43	0.44	0.43
New Metering and Compliance	0.05	0.05	0.10	0.06	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Environmental Delivery	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Murrumbidgee Valley - Total Operating Expenditure	8.40	7.27	8.45	8.91	8.81	10.87	9.77	8.91	9.58	9.50	9.22
Atkins/Cardno recommended scope adjustments											
Customer Support	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01
Customer Billing	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01
Metering and Compliance	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.01	0.01	0.02
Water Delivery and Other Operations	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.04	0.03	0.06
Flood Operations	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.01	0.01
Hydrometric Monitoring	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.03	0.03	0.06
Water Quality Monitoring	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01
Corrective Maintenance	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.02	0.02	0.04
Routine Maintenance	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05	0.07	0.06	0.13
Asset management planning	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.02	0.01	0.02
Dam Safety Compliance Capital Projects pre-1997	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Dam Safety Compliance	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.02	0.02	0.04
Environmental Planning and Protection	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.43	0.21	0.00	0.00
Direct Insurances	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.02	0.02	0.04
Renewal and Replacement	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Corporate Systems	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Internal	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.04	-0.14	-0.14	-0.13
New Metering and Compliance	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Environmental Delivery	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Sub Total adjustments	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.65	0.32	0.08	0.32
Atkins/Cardno recommended efficiency targets											
Continuing Efficiency (%)								0.70%	1.40%	2.09%	2.77%
Continuing Efficiency (\$M)								-0.07	-0.14	-0.20	-0.26
Catch-up efficiency (%)								1.10%	2.19%	3.26%	4.33%
Catch-up efficiency (\$M)								-0.10	-0.21	-0.31	-0.40
ATKINS/CARDNO ASSESSMENT OF EFFICIENT EXPENDITURE											
(\$M 2020/21) year ending June	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
Customer Support	0.12	0.11	0.07	0.15	0.26	0.18	0.18	0.18	0.17	0.17	0.17
Customer Billing	0.12	0.12	0.11	0.10	0.19	0.47	0.18	0.19	0.18	0.17	0.16
Metering and Compliance	0.58	0.44	0.42	0.48	0.54	0.39	0.49	0.50	0.43	0.41	0.39
Water Delivery and Other Operations	1.40	0.95	0.99	0.95	0.95	1.19	1.72	1.43	1.31	1.22	1.17
Flood Operations	0.04	0.02	0.19	0.07	0.09	0.01	0.25	0.23	0.27	0.26	0.25
Hydrometric Monitoring	1.31	1.55	2.38	1.75	1.20	1.41	1.11	1.07	1.04	1.09	1.07
Water Quality Monitoring	0.02	0.04	0.08	0.05	0.08	0.04	0.13	0.13	0.12	0.13	0.13
Corrective Maintenance	0.78	0.85	0.66	0.56	0.73	1.40	0.69	0.68	0.66	0.69	0.68
Routine Maintenance	1.98	1.89	2.43	2.82	2.54	3.25	2.50	2.43	2.38	2.45	2.51
Asset management planning	0.59	0.51	0.47	0.28	0.16	0.07	0.60	0.37	0.75	0.48	0.42
Dam Safety Compliance Capital Projects pre-1997	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Dam Safety Compliance	0.74	0.65	0.54	0.88	0.52	0.75	0.68	0.57	0.82	0.80	0.73
Environmental Planning and Protection	0.25	0.11	0.01	0.00	0.02	0.00	0.15	0.51	0.29	0.08	0.07
Direct Insurances	0.30	0.00	0.00	0.68	1.55	1.44	0.85	0.86	0.85	0.83	0.84
Renewal and Replacement	0.00	0.00	0.00	0.06	0.00	0.06	0.01	0.00	0.00	0.00	0.00
Corporate Systems	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Internal	0.12	0.00	0.00	0.00	0.00	0.21	0.22	0.24	0.28	0.28	0.28
New Metering and Compliance	0.05	0.05	0.10	0.06	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Environmental Delivery	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total Efficient Expenditure	8.40	7.27	8.45	8.91	8.81	10.87	9.77	9.39	9.55	9.07	8.88

A.9. Lowbidgee

Table A-17 - Capital Expenditure Lowbidgee

WATERSNSW RURAL BULK WATER PROPOSAL - CAPEX - LOWBIDGEE										
(\$M 2020/21) year ending June	2018	2019	2020	2021	2022	2023	2024	2025	2023-25 Total	2022-25 Total
Water Delivery & Other Operations	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Flood Operations	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hydrometric Monitoring	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Water Quality Monitoring	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Corrective Maintenance	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Routine Maintenance	0.00	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.01	0.01
Asset Management Planning	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Dam Safety Compliance	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Environmental Planning & Protection	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Corporate Systems	0.00	0.00	2.22	0.22	0.07	0.07	0.07	0.05	0.18	0.25
Drought projects (3 dams)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Drought projects (other)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Renewals and Replacement	3.36	4.32	0.88	0.43	1.00	2.37	1.04	1.01	4.42	5.42
Dam safety compliance on pre 1997 capital projects	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Structural and other enhancements	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Customer support	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Internal corporate projects	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total capex proposed by WNSW	3.36	4.32	3.12	0.65	1.08	2.44	1.11	1.07	4.61	5.69
Atkins/Cardno recommended adjustments for specific programs or projects										
PDMP reallocation from Corporate to Drought projects (3 dams)			-0.03	-0.01						
Water Delivery & Other Operations - Corporate Systems FY20 miscoding			0.11							
Flood operations - Corporate Systems FY20 miscoding			0.02							
Hydrometric monitoring - Corporate Systems FY20 miscoding			0.14							
Asset management planning - Corporate Systems FY20 miscoding			0.00							
Dam safety compliance pre1997 - Corporate Systems FY20 miscoding			0.05							
Environmental Planning & Protection - Corporate Systems FY20 miscoding			0.01							
Renewals and Replacement - Corporate Systems FY20 miscoding			0.07							
Corporate Systems - Corporate Systems FY20 miscoding			-0.40							
LB Corporate Systems RAB to Salary Allocation adjustment					0.00	0.00	0.00	0.00	0.01	0.01
LB Dam Safety Compliance RAB to Salary Allocation adjustment					0.00	0.00	0.00	0.00	0.00	0.00
LB Asset management planning RAB to Salary Allocation adjustment					0.00	0.00	0.00	0.00	0.00	0.00
LB Routine maintenance RAB to Salary Allocation adjustment					0.00	0.00	0.00	0.00	0.00	0.00
LB Renewals and Replacement RAB to Salary Allocation adjustment					0.00	0.00	0.00	0.00	0.00	0.00
LB - Corporate Scope and Reallocation				0.00	0.01	0.01	0.01	0.01	0.02	0.03
Sub Total adjustments	0.00	0.00	-0.03	-0.01	0.01	0.01	0.01	0.01	0.03	0.04
ADJUSTED EXPENDITURE BEFORE APPLICATION OF EFFICIENCY TARGETS										
Water Delivery & Other Operations	0.00	0.00	0.11	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Flood Operations	0.00	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hydrometric Monitoring	0.00	0.00	0.14	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Water Quality Monitoring	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Corrective Maintenance	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Routine Maintenance	0.00	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.01	0.01
Asset Management Planning	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Dam Safety Compliance	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Environmental Planning & Protection	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Corporate Systems	0.00	0.00	1.79	0.22	0.08	0.08	0.07	0.06	0.21	0.29
Drought projects (3 dams)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Drought projects (other)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Renewals and Replacement	3.36	4.32	0.95	0.43	1.00	2.37	1.04	1.01	4.42	5.42
Dam safety compliance on pre 1997 capital projects	0.00	0.00	0.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Structural and other enhancements	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Customer support	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Internal corporate projects	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total pre-efficiency	3.36	4.32	3.09	0.65	1.09	2.45	1.11	1.07	4.64	5.73
Atkins/Cardno recommended additional capital efficiency targets (beyond those applied by the company)										
Continuing Efficiency (%)				0.00%	0.70%	1.40%	2.09%	2.77%		
Continuing Efficiency (\$M)				0.00	-0.01	-0.03	-0.02	-0.03	-0.09	-0.09
Catch-up efficiency (%)				0.00%	2.11%	4.22%	6.83%	7.44%		
Catch-up efficiency (\$M)				0.00	-0.02	-0.10	-0.07	-0.08	-0.25	-0.28
ATKINS/CARDNO ASSESSMENT OF EFFICIENT EXPENDITURE										
(\$M 2020/21) year ending June	2018	2019	2020	2021	2022	2023	2024	2025	2023-25 Total	2022-25 Total
Water Delivery & Other Operations	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.00	0.00
Flood Operations	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00
Hydrometric Monitoring	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.00	0.00
Water Quality Monitoring	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00
Corrective Maintenance	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00
Routine Maintenance	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.01	0.01
Asset Management Planning	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00
Dam Safety Compliance	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00
Environmental Planning & Protection	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00
Corporate Systems	0.0	0.0	1.8	0.2	0.1	0.1	0.1	0.1	0.19	0.27
Drought projects (3 dams)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00
Drought projects (other)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00
Renewals and Replacement	3.4	4.3	0.9	0.4	1.0	2.2	0.9	0.9	4.10	5.07
Dam safety compliance on pre 1997 capital projects	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.00	0.00
Structural and other enhancements	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00
Customer support	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00
Internal corporate projects	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00
Total Efficient Expenditure	3.4	4.3	3.1	0.6	1.1	2.3	1.0	1.0	4.3	5.4
<i>User Share Capital Expenditure</i>	<i>3.0</i>	<i>3.9</i>	<i>2.9</i>	<i>0.6</i>	<i>1.0</i>	<i>2.2</i>	<i>1.0</i>	<i>0.9</i>	<i>4.1</i>	<i>5.0</i>
<i>Government Share Capital Expenditure</i>	<i>0.3</i>	<i>0.4</i>	<i>0.2</i>	<i>0.0</i>	<i>0.1</i>	<i>0.1</i>	<i>0.1</i>	<i>0.1</i>	<i>0.2</i>	<i>0.3</i>

Table A-18 – Operating Expenditure Lowbidgee

WATERNSW RURAL BULK WATER PROPOSAL - OPEX - Lowbidgee Valley

(\$M 2020/21) year ending June	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
Customer Support	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Customer Billing	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Metering and Compliance	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Water Delivery and Other Operations	0.18	0.03	0.04	0.01	0.01	0.00	0.08	0.11	0.09	0.07	0.07
Flood Operations	0.00	0.00	0.24	0.00	0.00	0.00	0.01	0.01	0.01	0.01	0.01
Hydrometric Monitoring	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Water Quality Monitoring	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Corrective Maintenance	0.04	0.05	0.01	0.02	0.00	0.02	0.16	0.16	0.16	0.17	0.17
Routine Maintenance	0.36	0.45	0.33	0.41	0.36	0.48	0.63	0.63	0.63	0.66	0.66
Asset management planning	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Dam Safety Compliance Capital Projects pre-1997	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Dam Safety Compliance	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Environmental Planning and Protection	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Direct Insurances	0.00	0.00	0.00	0.00	0.00	0.03	0.02	0.02	0.02	0.02	0.02
Renewal and Replacement	0.00	0.00	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Corporate Systems	0.00	0.00	0.00	0.07	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Internal	0.00	0.00	0.00	0.00	0.04	0.00	0.00	0.00	0.02	0.02	0.02
New Metering and Compliance	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Environmental Delivery	0.00	0.08	0.04	0.01	0.02	0.01	0.00	0.00	0.00	0.00	0.00
Lowbidgee Valley - Total Operating Expenditure	0.59	0.60	0.66	0.54	0.43	0.55	0.90	0.93	0.93	0.96	0.95

Atkins/Cardno recommended scope adjustments

Customer Support	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Customer Billing	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Metering and Compliance	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Water Delivery and Other Operations	0.00	0.00	0.00	0.00	0.00	0.00	0.00	-0.02	-0.01	-0.01	-0.01
Flood Operations	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hydrometric Monitoring	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Water Quality Monitoring	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Corrective Maintenance	0.00	0.00	0.00	0.00	0.00	0.00	0.00	-0.03	-0.02	-0.03	-0.02
Routine Maintenance	0.00	0.00	0.00	0.00	0.00	0.00	0.00	-0.10	-0.09	-0.10	-0.09
Asset management planning	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Dam Safety Compliance Capital Projects pre-1997	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Dam Safety Compliance	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Environmental Planning and Protection	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Direct Insurances	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Renewal and Replacement	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Corporate Systems	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Internal	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	-0.01	-0.01	-0.01
New Metering and Compliance	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Environmental Delivery	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Sub Total adjustments	0.00	0.00	0.00	0.00	0.00	0.00	0.00	-0.15	-0.14	-0.16	-0.14

Atkins/Cardno recommended efficiency targets

Continuing Efficiency (%)								0.70%	1.40%	2.09%	2.77%
Continuing Efficiency (\$M)								-0.01	-0.01	-0.02	-0.02
Catch-up efficiency (%)								1.10%	2.19%	3.26%	4.33%
Catch-up efficiency (\$M)								-0.01	-0.02	-0.03	-0.03

ATKINS/CARDNO ASSESSMENT OF EFFICIENT EXPENDITURE

(\$M 2020/21) year ending June	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
Customer Support	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Customer Billing	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Metering and Compliance	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Water Delivery and Other Operations	0.18	0.03	0.04	0.01	0.01	0.00	0.08	0.09	0.07	0.06	0.05
Flood Operations	0.00	0.00	0.24	0.00	0.00	0.00	0.01	0.01	0.01	0.01	0.01
Hydrometric Monitoring	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Water Quality Monitoring	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Corrective Maintenance	0.04	0.05	0.01	0.02	0.00	0.02	0.16	0.13	0.13	0.14	0.13
Routine Maintenance	0.36	0.45	0.33	0.41	0.36	0.48	0.63	0.52	0.52	0.53	0.53
Asset management planning	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Dam Safety Compliance Capital Projects pre-1997	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Dam Safety Compliance	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Environmental Planning and Protection	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Direct Insurances	0.00	0.00	0.00	0.00	0.00	0.03	0.02	0.02	0.02	0.02	0.02
Renewal and Replacement	0.00	0.00	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Corporate Systems	0.00	0.00	0.00	0.07	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Internal	0.00	0.00	0.00	0.00	0.04	0.00	0.00	0.00	0.01	0.01	0.01
New Metering and Compliance	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Environmental Delivery	0.00	0.08	0.04	0.01	0.02	0.01	0.00	0.00	0.00	0.00	0.00
Total Efficient Expenditure	0.59	0.60	0.66	0.54	0.43	0.55	0.90	0.77	0.76	0.76	0.75

A.10. North Coast

Table A-19 - Capital Expenditure North Coast

WATERSNSW RURAL BULK WATER PROPOSAL - CAPEX - NORTH COAST										
(\$M 2020/21) year ending June	2018	2019	2020	2021	2022	2023	2024	2025	2023-25 Total	2022-25 Total
Water Delivery & Other Operations	0.00	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Flood Operations	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hydrometric Monitoring	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Water Quality Monitoring	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Corrective Maintenance	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Routine Maintenance	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.01
Asset Management Planning	0.00	0.00	0.00	0.01	0.01	0.01	0.01	0.01	0.04	0.05
Dam Safety Compliance	0.00	0.00	0.00	0.05	0.03	0.02	0.03	0.02	0.08	0.11
Environmental Planning & Protection	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Corporate Systems	0.06	0.00	0.11	0.43	0.08	0.07	0.15	0.20	0.42	0.49
Drought projects (3 dams)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Drought projects (other)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Renewals and Replacement	0.15	0.20	0.11	0.51	0.15	0.16	0.16	0.16	0.47	0.63
Dam safety compliance on pre 1997 capital projects	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Structural and other enhancements	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Customer support	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Internal corporate projects	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total capex proposed by WNSW	0.21	0.22	0.23	1.00	0.27	0.26	0.35	0.40	1.02	1.29
Atkins/Cardno recommended adjustments for specific programs or projects										
PDMP reallocation from Corporate to Drought projects (3 dams)			-0.17	-0.03						
Water Delivery & Other Operations - Corporate Systems FY20 miscoding			0.01							
Flood operations - Corporate Systems FY20 miscoding			0.00							
Hydrometric monitoring - Corporate Systems FY20 miscoding			0.01							
Asset management planning - Corporate Systems FY20 miscoding			0.00							
Dam safety compliance pre1997 - Corporate Systems FY20 miscoding			0.00							
Environmental Planning & Protection - Corporate Systems FY20 miscoding			0.00							
Renewals and Replacement - Corporate Systems FY20 miscoding			0.00							
Corporate Systems - Corporate Systems FY20 miscoding			-0.02							
NC Corporate Systems RAB to Salary Allocation adjustment					0.07	0.07	0.06	0.04	0.17	0.24
NC Dam Safety Compliance RAB to Salary Allocation adjustment					0.02	0.02	0.04	0.02	0.08	0.10
NC Asset management planning RAB to Salary Allocation adjustment					0.01	0.01	0.01	0.01	0.03	0.04
NC Routine maintenance RAB to Salary Allocation adjustment					0.00	0.00	0.00	0.00	0.01	0.01
NC Renewals and Replacement RAB to Salary Allocation adjustment					0.00	0.00	0.00	0.00	0.00	0.00
NC - Corporate Scope and Reallocation				0.00	0.01	0.01	0.01	0.01	0.04	0.05
NC - Cold Water Pollution					0.08	0.04	0.00	0.00	0.04	0.13
Sub Total adjustments	0.00	0.00	-0.17	-0.03	0.20	0.15	0.12	0.09	0.36	0.57
ADJUSTED EXPENDITURE BEFORE APPLICATION OF EFFICIENCY TARGETS										
Water Delivery & Other Operations	0.00	0.03	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Flood Operations	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hydrometric Monitoring	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Water Quality Monitoring	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Corrective Maintenance	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Routine Maintenance	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.02	0.02
Asset Management Planning	0.00	0.00	0.00	0.01	0.02	0.02	0.02	0.02	0.06	0.09
Dam Safety Compliance	0.00	0.00	0.00	0.05	0.05	0.05	0.07	0.04	0.16	0.21
Environmental Planning & Protection	0.00	0.00	0.00	0.00	0.08	0.04	0.00	0.00	0.04	0.13
Corporate Systems	0.06	0.00	-0.09	0.39	0.16	0.15	0.22	0.26	0.63	0.79
Drought projects (3 dams)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Drought projects (other)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Renewals and Replacement	0.15	0.20	0.11	0.51	0.15	0.16	0.16	0.16	0.47	0.63
Dam safety compliance on pre 1997 capital projects	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Structural and other enhancements	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Customer support	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Internal corporate projects	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total pre-efficiency	0.21	0.22	0.05	0.97	0.48	0.42	0.48	0.49	1.38	1.85
Atkins/Cardno recommended additional capital efficiency targets (beyond those applied by the company)										
Continuing Efficiency (%)				0.00%	0.70%	1.40%	2.09%	2.77%		
Continuing Efficiency (\$M)				0.00	0.00	-0.01	-0.01	-0.01	-0.03	-0.03
Catch-up efficiency (%)				0.00%	2.11%	4.22%	6.83%	7.44%		
Catch-up efficiency (\$M)				0.00	-0.01	-0.02	-0.03	-0.04	-0.08	-0.09
ATKINS/CARDNO ASSESSMENT OF EFFICIENT EXPENDITURE										
(\$M 2020/21) year ending June	2018	2019	2020	2021	2022	2023	2024	2025	2023-25 Total	2022-25 Total
Water Delivery & Other Operations	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00
Flood Operations	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00
Hydrometric Monitoring	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00
Water Quality Monitoring	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00
Corrective Maintenance	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00
Routine Maintenance	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.01	0.02
Asset Management Planning	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.06	0.08
Dam Safety Compliance	0.0	0.0	0.0	0.1	0.0	0.0	0.1	0.0	0.15	0.20
Environmental Planning & Protection	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.04	0.12
Corporate Systems	0.1	0.0	-0.1	0.4	0.2	0.1	0.2	0.2	0.57	0.73
Drought projects (3 dams)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00
Drought projects (other)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00
Renewals and Replacement	0.1	0.2	0.1	0.5	0.1	0.1	0.1	0.1	0.43	0.58
Dam safety compliance on pre 1997 capital projects	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00
Structural and other enhancements	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00
Customer support	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00
Internal corporate projects	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00
Total Efficient Expenditure	0.2	0.2	0.1	1.0	0.5	0.4	0.4	0.4	1.3	1.7
<i>User Share Capital Expenditure</i>	<i>0.2</i>	<i>0.2</i>	<i>0.0</i>	<i>0.9</i>	<i>0.4</i>	<i>0.3</i>	<i>0.4</i>	<i>0.4</i>	<i>1.1</i>	<i>1.5</i>
<i>Government Share Capital Expenditure</i>	<i>0.0</i>	<i>0.0</i>	<i>0.0</i>	<i>0.1</i>	<i>0.1</i>	<i>0.1</i>	<i>0.1</i>	<i>0.1</i>	<i>0.2</i>	<i>0.2</i>

Table A-20 – Operating Expenditure North Coast

WATERNSW RURAL BULK WATER PROPOSAL - OPEX - North Coast Valley											
(\$M 2020/21) year ending June	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
Customer Support	0.00	0.00	0.00	0.03	0.01	0.06	0.16	0.16	0.15	0.15	0.15
Customer Billing	0.02	0.01	0.01	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00
Metering and Compliance	0.03	0.01	0.01	0.01	0.00	0.04	0.00	0.00	0.00	0.00	0.00
Water Delivery and Other Operations	0.05	0.05	0.18	0.03	0.06	0.20	0.11	0.09	0.08	0.07	0.07
Flood Operations	0.00	0.00	0.00	0.00	0.00	0.04	0.00	0.00	0.00	0.00	0.00
Hydrometric Monitoring	0.03	0.03	0.19	0.28	0.25	0.12	0.06	0.05	0.05	0.06	0.05
Water Quality Monitoring	0.04	0.04	0.05	0.05	0.06	0.03	0.02	0.02	0.02	0.02	0.02
Corrective Maintenance	0.11	0.07	0.11	0.06	0.06	0.10	0.11	0.11	0.11	0.11	0.11
Routine Maintenance	0.21	0.20	0.31	0.31	0.27	0.32	0.31	0.30	0.30	0.32	0.32
Asset management planning	0.03	0.02	0.02	0.02	0.00	0.00	0.04	0.03	0.09	0.03	0.03
Dam Safety Compliance Capital Projects pre-1997	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Dam Safety Compliance	0.18	0.18	0.15	0.12	0.12	0.10	0.16	0.16	0.18	0.19	0.19
Environmental Planning and Protection	0.01	0.01	0.00	0.00	0.00	0.00	0.01	0.01	0.01	0.01	0.01
Direct Insurances	0.05	0.00	0.00	0.07	0.07	0.05	0.03	0.03	0.03	0.03	0.03
Renewal and Replacement	0.00	0.00	0.00	0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Corporate Systems	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Internal	0.01	0.00	0.01	0.00	0.00	0.11	0.08	0.08	0.12	0.12	0.12
New Metering and Compliance	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Environmental Delivery	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
North Coast Valley - Total Operating Expenditure	0.77	0.62	1.03	1.02	0.92	1.18	1.09	1.04	1.13	1.12	1.10
Atkins/Cardno recommended scope adjustments											
Customer Support	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Customer Billing	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Metering and Compliance	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Water Delivery and Other Operations	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Flood Operations	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hydrometric Monitoring	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Water Quality Monitoring	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Corrective Maintenance	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Routine Maintenance	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.01	0.00	0.01
Asset management planning	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Dam Safety Compliance Capital Projects pre-1997	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Dam Safety Compliance	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.01
Environmental Planning and Protection	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Direct Insurances	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Renewal and Replacement	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Corporate Systems	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Internal	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02	-0.03	-0.03	-0.03
New Metering and Compliance	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Environmental Delivery	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Sub Total adjustments	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.04	-0.01	-0.02	0.00
Atkins/Cardno recommended efficiency targets											
Continuing Efficiency (%)								0.70%	1.40%	2.09%	2.77%
Continuing Efficiency (\$M)								-0.01	-0.02	-0.02	-0.03
Catch-up efficiency (%)								1.10%	2.19%	3.26%	4.33%
Catch-up efficiency (\$M)								-0.01	-0.02	-0.03	-0.05
ATKINS/CARDNO ASSESSMENT OF EFFICIENT EXPENDITURE											
(\$M 2020/21) year ending June	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
Customer Support	0.00	0.00	0.00	0.03	0.01	0.06	0.16	0.16	0.15	0.15	0.14
Customer Billing	0.02	0.01	0.01	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00
Metering and Compliance	0.03	0.01	0.01	0.01	0.00	0.04	0.00	0.00	0.00	0.00	0.00
Water Delivery and Other Operations	0.05	0.05	0.18	0.03	0.06	0.20	0.11	0.09	0.08	0.07	0.07
Flood Operations	0.00	0.00	0.00	0.00	0.00	0.04	0.00	0.00	0.00	0.00	0.00
Hydrometric Monitoring	0.03	0.03	0.19	0.28	0.25	0.12	0.06	0.05	0.05	0.05	0.05
Water Quality Monitoring	0.04	0.04	0.05	0.05	0.06	0.03	0.02	0.02	0.02	0.02	0.02
Corrective Maintenance	0.11	0.07	0.11	0.06	0.06	0.10	0.11	0.11	0.11	0.11	0.11
Routine Maintenance	0.21	0.20	0.31	0.31	0.27	0.32	0.31	0.31	0.30	0.31	0.31
Asset management planning	0.03	0.02	0.02	0.02	0.00	0.00	0.04	0.03	0.09	0.03	0.02
Dam Safety Compliance Capital Projects pre-1997	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Dam Safety Compliance	0.18	0.18	0.15	0.12	0.12	0.10	0.16	0.16	0.18	0.18	0.18
Environmental Planning and Protection	0.01	0.01	0.00	0.00	0.00	0.00	0.01	0.01	0.01	0.01	0.01
Direct Insurances	0.05	0.00	0.00	0.07	0.07	0.05	0.03	0.03	0.03	0.03	0.03
Renewal and Replacement	0.00	0.00	0.00	0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Corporate Systems	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Internal	0.01	0.00	0.01	0.00	0.00	0.11	0.08	0.09	0.08	0.08	0.08
New Metering and Compliance	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Environmental Delivery	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total Efficient Expenditure	0.77	0.62	1.03	1.02	0.92	1.18	1.09	1.06	1.09	1.03	1.02

A.11. Hunter

Table A-21 - Capital Expenditure Hunter

WATERSNSW RURAL BULK WATER PROPOSAL - CAPEX - HUNTER										
(\$M 2020/21) year ending June	2018	2019	2020	2021	2022	2023	2024	2025	2023-25 Total	2022-25 Total
Water Delivery & Other Operations	0.00	0.27	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Flood Operations	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hydrometric Monitoring	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Water Quality Monitoring	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Corrective Maintenance	0.00	0.00	0.00	0.03	0.00	0.00	0.00	0.00	0.00	0.00
Routine Maintenance	0.00	0.00	0.00	0.05	0.00	0.00	0.00	0.01	0.02	0.02
Asset Management Planning	0.00	0.00	0.00	0.02	0.02	0.02	0.01	0.02	0.05	0.07
Dam Safety Compliance	0.00	0.00	0.00	0.02	0.11	0.34	0.42	0.23	0.99	1.10
Environmental Planning & Protection	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Corporate Systems	0.26	0.03	1.09	0.46	0.23	0.14	0.67	0.41	1.22	1.44
Drought projects (3 dams)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Drought projects (other)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Renewals and Replacement	0.17	0.51	1.09	4.79	1.25	2.09	1.73	1.37	5.19	6.44
Dam safety compliance on pre 1997 capital projects	0.07	0.03	0.13	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Structural and other enhancements	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Customer support	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Internal corporate projects	0.00	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total capex proposed by WNSW	0.49	0.85	2.33	5.38	1.62	2.59	2.84	2.03	7.46	9.08
Atkins/Cardno recommended adjustments for specific programs or projects										
PDMP reallocation from Corporate to Drought projects (3 dams)			-0.04	-0.01						
Water Delivery & Other Operations - Corporate Systems FY20 miscoding			0.05							
Flood operations - Corporate Systems FY20 miscoding			0.01							
Hydrometric monitoring - Corporate Systems FY20 miscoding			0.07							
Asset management planning - Corporate Systems FY20 miscoding			0.00							
Dam safety compliance pre1997 - Corporate Systems FY20 miscoding			0.03							
Environmental Planning & Protection - Corporate Systems FY20 miscoding			0.01							
Renewals and Replacement - Corporate Systems FY20 miscoding			0.03							
Corporate Systems - Corporate Systems FY20 miscoding			-0.20							
HU Corporate Systems RAB to Salary Allocation adjustment					0.49	0.45	0.43	0.30	1.18	1.67
HU Dam Safety Compliance RAB to Salary Allocation adjustment					0.16	0.15	0.21	0.13	0.49	0.65
HU Asset management planning RAB to Salary Allocation adjustment					0.08	0.06	0.07	0.07	0.20	0.28
HU Routine maintenance RAB to Salary Allocation adjustment					0.01	0.01	0.01	0.02	0.05	0.06
HU Renewals and Replacement RAB to Salary Allocation adjustment					0.00	0.00	0.00	0.00	0.00	0.00
HU - Corporate Scope and Reallocation				0.00	0.06	0.06	0.06	0.06	0.17	0.23
HU - Cold Water Pollution					0.17	0.08	0.00	0.00	0.08	0.25
Sub Total adjustments	0.00	0.00	-0.04	-0.01	0.97	0.81	0.79	0.57	2.09	2.89
ADJUSTED EXPENDITURE BEFORE APPLICATION OF EFFICIENCY TARGETS										
Water Delivery & Other Operations	0.00	0.27	0.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Flood Operations	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hydrometric Monitoring	0.00	0.00	0.07	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Water Quality Monitoring	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Corrective Maintenance	0.00	0.00	0.00	0.03	0.00	0.00	0.00	0.00	0.00	0.00
Routine Maintenance	0.00	0.00	0.00	0.05	0.02	0.02	0.02	0.03	0.06	0.08
Asset Management Planning	0.00	0.00	0.00	0.02	0.10	0.08	0.08	0.08	0.25	0.35
Dam Safety Compliance	0.00	0.00	0.00	0.02	0.27	0.49	0.64	0.35	1.48	1.75
Environmental Planning & Protection	0.00	0.00	0.01	0.00	0.17	0.08	0.00	0.00	0.08	0.25
Corporate Systems	0.26	0.03	0.85	0.45	0.77	0.64	1.16	0.76	2.57	3.34
Drought projects (3 dams)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Drought projects (other)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Renewals and Replacement	0.17	0.51	1.13	4.79	1.25	2.09	1.73	1.37	5.19	6.44
Dam safety compliance on pre 1997 capital projects	0.07	0.03	0.16	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Structural and other enhancements	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Customer support	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Internal corporate projects	0.00	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total pre-efficiency	0.49	0.85	2.29	5.37	2.59	3.40	3.64	2.59	9.63	12.22
Atkins/Cardno recommended additional capital efficiency targets (beyond those applied by the company)										
Continuing Efficiency (%)				0.00%	0.70%	1.40%	2.09%	2.77%		
Continuing Efficiency (\$M)				0.00	-0.02	-0.05	-0.08	-0.07	-0.20	-0.21
Catch-up efficiency (%)				0.00%	2.11%	4.22%	6.83%	7.44%		
Catch-up efficiency (\$M)				0.00	-0.05	-0.14	-0.24	-0.19	-0.57	-0.63
ATKINS/CARDNO ASSESSMENT OF EFFICIENT EXPENDITURE										
(\$M 2020/21) year ending June	2018	2019	2020	2021	2022	2023	2024	2025	2023-25 Total	2022-25 Total
Water Delivery & Other Operations	0.0	0.3	0.1	0.0	0.0	0.0	0.0	0.0	0.00	0.00
Flood Operations	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00
Hydrometric Monitoring	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.00	0.00
Water Quality Monitoring	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00
Corrective Maintenance	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00
Routine Maintenance	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.06	0.08
Asset Management Planning	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.23	0.33
Dam Safety Compliance	0.0	0.0	0.0	0.0	0.3	0.5	0.6	0.3	1.37	1.63
Environmental Planning & Protection	0.0	0.0	0.0	0.0	0.2	0.1	0.0	0.0	0.08	0.24
Corporate Systems	0.3	0.0	0.8	0.5	0.8	0.6	1.1	0.7	2.35	3.10
Drought projects (3 dams)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00
Drought projects (other)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00
Renewals and Replacement	0.2	0.5	1.1	4.8	1.2	2.0	1.6	1.2	4.78	6.00
Dam safety compliance on pre 1997 capital projects	0.1	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.00	0.00
Structural and other enhancements	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00
Customer support	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00
Internal corporate projects	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00
Total Efficient Expenditure	0.5	0.8	2.3	5.4	2.5	3.2	3.3	2.3	8.9	11.4
<i>User Share Capital Expenditure</i>	<i>0.4</i>	<i>0.8</i>	<i>2.0</i>	<i>4.9</i>	<i>2.2</i>	<i>2.9</i>	<i>2.9</i>	<i>2.1</i>	<i>7.9</i>	<i>10.1</i>
<i>Government Share Capital Expenditure</i>	<i>0.1</i>	<i>0.1</i>	<i>0.3</i>	<i>0.5</i>	<i>0.3</i>	<i>0.3</i>	<i>0.4</i>	<i>0.3</i>	<i>1.0</i>	<i>1.3</i>

Table A-22 – Operating Expenditure Hunter

WATERNSW RURAL BULK WATER PROPOSAL - OPEX - Hunter Valley											
(\$M 2020/21) year ending June	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
Customer Support	0.07	0.07	0.05	0.02	0.01	0.06	0.12	0.12	0.11	0.12	0.12
Customer Billing	0.06	0.05	0.04	0.04	0.07	-0.04	0.03	0.03	0.03	0.03	0.03
Metering and Compliance	0.61	0.53	0.45	0.46	0.40	0.43	0.11	0.11	0.11	0.10	0.09
Water Delivery and Other Operations	0.56	0.30	0.31	0.41	0.43	0.66	0.87	0.78	0.75	0.73	0.69
Flood Operations	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hydrometric Monitoring	0.30	0.30	1.28	0.59	0.57	0.52	0.27	0.26	0.26	0.27	0.26
Water Quality Monitoring	0.08	0.10	0.14	0.07	0.08	0.10	0.10	0.10	0.10	0.10	0.10
Corrective Maintenance	0.25	0.38	0.47	0.59	0.48	0.36	0.71	0.70	0.68	0.73	0.71
Routine Maintenance	1.06	0.90	1.29	1.17	1.37	1.75	1.52	1.48	1.47	1.55	1.55
Asset management planning	0.45	0.37	0.23	0.16	0.04	-0.01	0.23	0.15	0.34	0.16	0.12
Dam Safety Compliance Capital Projects pre-1997	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Dam Safety Compliance	0.70	0.60	0.52	0.59	0.53	0.54	0.66	0.59	0.86	0.77	0.70
Environmental Planning and Protection	0.19	0.08	0.01	0.00	0.00	0.00	0.06	0.04	0.04	0.04	0.03
Direct Insurances	0.21	0.00	0.00	0.26	0.43	0.39	0.23	0.23	0.23	0.23	0.23
Renewal and Replacement	0.00	0.00	0.00	0.10	0.01	-0.04	0.00	0.00	0.00	0.00	0.00
Corporate Systems	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Internal	0.06	0.00	0.00	0.00	0.00	0.52	0.28	0.27	0.45	0.47	0.46
New Metering and Compliance	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Environmental Delivery	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hunter Valley - Total Operating Expenditure	4.59	3.69	4.78	4.46	4.42	5.25	5.20	4.85	5.44	5.31	5.10
Atkins/Cardno recommended scope adjustments											
Customer Support	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Customer Billing	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Metering and Compliance	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Water Delivery and Other Operations	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.02
Flood Operations	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hydrometric Monitoring	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01
Water Quality Monitoring	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Corrective Maintenance	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.02
Routine Maintenance	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	-0.01	0.04
Asset management planning	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Dam Safety Compliance Capital Projects pre-1997	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Dam Safety Compliance	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	-0.01	0.02
Environmental Planning and Protection	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Direct Insurances	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01
Renewal and Replacement	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Corporate Systems	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Internal	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05	-0.16	-0.16	-0.15
New Metering and Compliance	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Environmental Delivery	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Sub Total adjustments	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.09	-0.15	-0.19	-0.04
Atkins/Cardno recommended efficiency targets											
Continuing Efficiency (%)								0.70%	1.40%	2.09%	2.77%
Continuing Efficiency (\$M)								-0.03	-0.07	-0.11	-0.14
Catch-up efficiency (%)								1.10%	2.19%	3.26%	4.33%
Catch-up efficiency (\$M)								-0.05	-0.11	-0.16	-0.21
ATKINS/CARDNO ASSESSMENT OF EFFICIENT EXPENDITURE											
(\$M 2020/21) year ending June	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
Customer Support	0.07	0.07	0.05	0.02	0.01	0.06	0.12	0.12	0.11	0.11	0.11
Customer Billing	0.06	0.05	0.04	0.04	0.07	-0.04	0.03	0.03	0.03	0.03	0.03
Metering and Compliance	0.61	0.53	0.45	0.46	0.40	0.43	0.11	0.11	0.10	0.09	0.09
Water Delivery and Other Operations	0.56	0.30	0.31	0.41	0.43	0.66	0.87	0.77	0.73	0.69	0.66
Flood Operations	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hydrometric Monitoring	0.30	0.30	1.28	0.59	0.57	0.52	0.27	0.26	0.25	0.26	0.25
Water Quality Monitoring	0.08	0.10	0.14	0.07	0.08	0.10	0.10	0.10	0.09	0.10	0.10
Corrective Maintenance	0.25	0.38	0.47	0.59	0.48	0.36	0.71	0.69	0.66	0.69	0.68
Routine Maintenance	1.06	0.90	1.29	1.17	1.37	1.75	1.52	1.46	1.42	1.46	1.48
Asset management planning	0.45	0.37	0.23	0.16	0.04	-0.01	0.23	0.15	0.33	0.15	0.12
Dam Safety Compliance Capital Projects pre-1997	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Dam Safety Compliance	0.70	0.60	0.52	0.59	0.53	0.54	0.66	0.59	0.83	0.72	0.66
Environmental Planning and Protection	0.19	0.08	0.01	0.00	0.00	0.00	0.06	0.04	0.04	0.03	0.03
Direct Insurances	0.21	0.00	0.00	0.26	0.43	0.39	0.23	0.23	0.23	0.22	0.22
Renewal and Replacement	0.00	0.00	0.00	0.10	0.01	-0.04	0.00	0.00	0.00	0.00	0.00
Corporate Systems	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Internal	0.06	0.00	0.00	0.00	0.00	0.52	0.28	0.31	0.28	0.29	0.29
New Metering and Compliance	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Environmental Delivery	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total Efficient Expenditure	4.59	3.69	4.78	4.46	4.42	5.25	5.20	4.86	5.11	4.84	4.71

A.12. South Coast

Table A-23 - Capital Expenditure South Coast

WATERSW RURAL BULK WATER PROPOSAL - CAPEX - SOUTH COAST										
(\$M 2020/21) year ending June	2018	2019	2020	2021	2022	2023	2024	2025	2023-25 Total	2022-25 Total
Water Delivery & Other Operations	0.00	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Flood Operations	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hydrometric Monitoring	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Water Quality Monitoring	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Corrective Maintenance	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Routine Maintenance	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.01
Asset Management Planning	0.00	0.00	0.00	0.01	0.01	0.01	0.01	0.01	0.04	0.05
Dam Safety Compliance	0.00	0.00	0.00	0.01	0.03	0.02	0.04	0.08	0.14	0.16
Environmental Planning & Protection	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Corporate Systems	0.04	0.00	0.80	0.36	0.08	0.07	0.07	0.13	0.26	0.34
Drought projects (3 dams)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Drought projects (other)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Renewals and Replacement	0.05	0.08	0.19	0.41	0.13	0.13	0.13	0.13	0.39	0.52
Dam safety compliance on pre 1997 capital projects	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Structural and other enhancements	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Customer support	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Internal corporate projects	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total capex proposed by WNSW	0.09	0.12	0.99	0.79	0.24	0.24	0.25	0.35	0.84	1.08
Atkins/Cardno recommended adjustments for specific programs or projects										
PDMP reallocation from Corporate to Drought projects (3 dams)			-0.05	-0.01						
Water Delivery & Other Operations - Corporate Systems FY20 miscoding			0.04							
Flood operations - Corporate Systems FY20 miscoding			0.01							
Hydrometric monitoring - Corporate Systems FY20 miscoding			0.05							
Asset management planning - Corporate Systems FY20 miscoding			0.00							
Dam safety compliance pre1997 - Corporate Systems FY20 miscoding			0.02							
Environmental Planning & Protection - Corporate Systems FY20 miscoding			0.01							
Renewals and Replacement - Corporate Systems FY20 miscoding			0.02							
Corporate Systems - Corporate Systems FY20 miscoding			-0.14							
SC Corporate Systems RAB to Salary Allocation adjustment					0.04	0.03	0.03	0.02	0.09	0.13
SC Dam Safety Compliance RAB to Salary Allocation adjustment					0.01	0.01	0.02	0.01	0.04	0.05
SC Asset management planning RAB to Salary Allocation adjustment					0.01	0.00	0.00	0.00	0.01	0.02
SC Routine maintenance RAB to Salary Allocation adjustment					0.00	0.00	0.00	0.00	0.00	0.00
SC Renewals and Replacement RAB to Salary Allocation adjustment					0.00	0.00	0.00	0.00	0.00	0.00
SC - Corporate Scope and Reallocation				0.00	0.01	0.01	0.01	0.01	0.03	0.04
Sub Total adjustments	0.00	0.00	-0.05	-0.01	0.07	0.06	0.07	0.05	0.18	0.24
ADJUSTED EXPENDITURE BEFORE APPLICATION OF EFFICIENCY TARGETS										
Water Delivery & Other Operations	0.00	0.03	0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Flood Operations	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hydrometric Monitoring	0.00	0.00	0.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Water Quality Monitoring	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Corrective Maintenance	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Routine Maintenance	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.02
Asset Management Planning	0.00	0.00	0.00	0.01	0.02	0.01	0.02	0.02	0.05	0.07
Dam Safety Compliance	0.00	0.00	0.00	0.01	0.04	0.04	0.05	0.09	0.18	0.22
Environmental Planning & Protection	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Corporate Systems	0.04	0.00	0.60	0.35	0.12	0.11	0.11	0.16	0.38	0.50
Drought projects (3 dams)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Drought projects (other)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Renewals and Replacement	0.05	0.08	0.22	0.41	0.13	0.13	0.13	0.13	0.39	0.52
Dam safety compliance on pre 1997 capital projects	0.00	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Structural and other enhancements	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Customer support	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Internal corporate projects	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total pre-efficiency	0.09	0.12	0.94	0.78	0.31	0.30	0.32	0.40	1.02	1.33
Atkins/Cardno recommended additional capital efficiency targets (beyond those applied by the company)										
Continuing Efficiency (%)				0.00%	0.70%	1.40%	2.09%	2.77%		
Continuing Efficiency (\$M)				0.00	0.00	0.00	-0.01	-0.01	-0.02	-0.02
Catch-up efficiency (%)				0.00%	2.11%	4.22%	6.83%	7.44%		
Catch-up efficiency (\$M)				0.00	-0.01	-0.01	-0.02	-0.03	-0.06	-0.07
ATKINS/CARDNO ASSESSMENT OF EFFICIENT EXPENDITURE										
(\$M 2020/21) year ending June	2018	2019	2020	2021	2022	2023	2024	2025	2023-25 Total	2022-25 Total
Water Delivery & Other Operations	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00
Flood Operations	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00
Hydrometric Monitoring	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00
Water Quality Monitoring	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00
Corrective Maintenance	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00
Routine Maintenance	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.01	0.01
Asset Management Planning	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.05	0.06
Dam Safety Compliance	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.16	0.20
Environmental Planning & Protection	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00
Corporate Systems	0.0	0.0	0.6	0.3	0.1	0.1	0.1	0.1	0.35	0.47
Drought projects (3 dams)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00
Drought projects (other)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00
Renewals and Replacement	0.0	0.1	0.2	0.4	0.1	0.1	0.1	0.1	0.36	0.49
Dam safety compliance on pre 1997 capital projects	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00
Structural and other enhancements	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00
Customer support	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00
Internal corporate projects	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00
Total Efficient Expenditure	0.1	0.1	0.9	0.8	0.3	0.3	0.3	0.4	0.9	1.2
User Share Capital Expenditure	0.1	0.1	0.9	0.7	0.3	0.2	0.3	0.3	0.8	1.1
Government Share Capital Expenditure	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.1	0.1	0.2

Table A-24 – Operating Expenditure South Coast

WATERNSW RURAL BULK WATER PROPOSAL - OPEX - South Coast Valley

(\$M 2020/21) year ending June	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
Customer Support	0.00	0.00	0.00	0.01	0.01	0.06	0.20	0.20	0.19	0.19	0.19
Customer Billing	0.02	0.01	0.01	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00
Metering and Compliance	0.02	0.02	0.03	0.02	0.02	0.03	0.00	0.00	0.00	0.00	0.00
Water Delivery and Other Operations	0.05	0.04	0.06	0.05	0.13	0.14	0.10	0.09	0.08	0.07	0.07
Flood Operations	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hydrometric Monitoring	0.05	0.07	0.03	0.05	0.07	0.08	0.04	0.04	0.04	0.04	0.04
Water Quality Monitoring	0.00	0.01	0.02	0.00	0.01	0.01	0.01	0.01	0.01	0.01	0.01
Corrective Maintenance	0.03	0.00	0.03	0.03	0.08	0.02	0.04	0.04	0.04	0.04	0.04
Routine Maintenance	0.32	0.37	0.31	0.42	0.29	0.36	0.46	0.45	0.44	0.47	0.47
Asset management planning	0.03	0.02	0.02	0.01	0.00	0.00	0.04	0.03	0.09	0.02	0.03
Dam Safety Compliance Capital Projects pre-1997	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Dam Safety Compliance	0.20	0.14	0.12	0.11	0.13	0.11	0.17	0.16	0.22	0.19	0.16
Environmental Planning and Protection	0.01	0.01	0.00	0.00	0.00	0.00	0.01	0.01	0.01	0.01	0.01
Direct Insurances	0.00	0.00	0.00	0.03	0.03	0.02	0.01	0.01	0.01	0.01	0.01
Renewal and Replacement	0.00	0.00	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Corporate Systems	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Internal	0.01	0.00	0.00	0.00	0.00	0.01	0.02	0.02	0.04	0.04	0.04
New Metering and Compliance	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Environmental Delivery	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
South Coast Valley - Total Operating Expenditure	0.74	0.70	0.62	0.75	0.78	0.83	1.11	1.05	1.17	1.11	1.08

Atkins/Cardno recommended scope adjustments

Customer Support	0.00	0.00	0.00	0.00	0.00	0.00	0.00	-0.02	-0.01	-0.02	-0.01
Customer Billing	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Metering and Compliance	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Water Delivery and Other Operations	0.00	0.00	0.00	0.00	0.00	0.00	0.00	-0.01	-0.01	-0.01	-0.01
Flood Operations	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hydrometric Monitoring	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Water Quality Monitoring	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Corrective Maintenance	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Routine Maintenance	0.00	0.00	0.00	0.00	0.00	0.00	0.00	-0.04	-0.03	-0.04	-0.03
Asset management planning	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	-0.01	0.00	0.00
Dam Safety Compliance Capital Projects pre-1997	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Dam Safety Compliance	0.00	0.00	0.00	0.00	0.00	0.00	0.00	-0.01	-0.01	-0.02	-0.01
Environmental Planning and Protection	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Direct Insurances	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Renewal and Replacement	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Corporate Systems	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Internal	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	-0.02	-0.02	-0.02
New Metering and Compliance	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Environmental Delivery	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Sub Total adjustments	0.00	0.00	0.00	0.00	0.00	0.00	0.00	-0.08	-0.09	-0.11	-0.09

Atkins/Cardno recommended efficiency targets

Continuing Efficiency (%)								0.70%	1.40%	2.09%	2.77%
Continuing Efficiency (\$M)								-0.01	-0.02	-0.02	-0.03
Catch-up efficiency (%)								1.10%	2.19%	3.26%	4.33%
Catch-up efficiency (\$M)								-0.01	-0.02	-0.03	-0.04

ATKINS/CARDNO ASSESSMENT OF EFFICIENT EXPENDITURE

(\$M 2020/21) year ending June	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
Customer Support	0.00	0.00	0.00	0.01	0.01	0.06	0.20	0.18	0.17	0.17	0.16
Customer Billing	0.02	0.01	0.01	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00
Metering and Compliance	0.02	0.02	0.03	0.02	0.02	0.03	0.00	0.00	0.00	0.00	0.00
Water Delivery and Other Operations	0.05	0.04	0.06	0.05	0.13	0.14	0.10	0.08	0.07	0.06	0.06
Flood Operations	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hydrometric Monitoring	0.05	0.07	0.03	0.05	0.07	0.08	0.04	0.03	0.03	0.03	0.03
Water Quality Monitoring	0.00	0.01	0.02	0.00	0.01	0.01	0.01	0.01	0.01	0.01	0.01
Corrective Maintenance	0.03	0.00	0.03	0.03	0.08	0.02	0.04	0.04	0.03	0.04	0.04
Routine Maintenance	0.32	0.37	0.31	0.42	0.29	0.36	0.46	0.40	0.40	0.40	0.40
Asset management planning	0.03	0.02	0.02	0.01	0.00	0.00	0.04	0.02	0.08	0.02	0.02
Dam Safety Compliance Capital Projects pre-1997	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Dam Safety Compliance	0.20	0.14	0.12	0.11	0.13	0.11	0.17	0.15	0.19	0.16	0.14
Environmental Planning and Protection	0.01	0.01	0.00	0.00	0.00	0.00	0.01	0.01	0.01	0.01	0.01
Direct Insurances	0.00	0.00	0.00	0.03	0.03	0.02	0.01	0.01	0.01	0.01	0.01
Renewal and Replacement	0.00	0.00	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Corporate Systems	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Internal	0.01	0.00	0.00	0.00	0.00	0.01	0.02	0.02	0.03	0.02	0.02
New Metering and Compliance	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Environmental Delivery	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total Efficient Expenditure	0.74	0.70	0.62	0.75	0.78	0.83	1.11	0.95	1.04	0.94	0.91

A.13. Fish River Water Scheme

Table A-25 - Capital Expenditure Fish River Water Scheme

WATERSNSW RURAL BULK WATER PROPOSAL - CAPEX - FISH RIVER WATER SCHEME										
(\$M 2020/21) year ending June	2018	2019	2020	2021	2022	2023	2024	2025	2023-25 Total	2022-25 Total
Water Delivery & Other Operations	0.00	2.04	0.10	0.24	0.95	0.86	0.00	0.00	0.86	1.81
Flood Operations	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hydrometric Monitoring	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Water Quality Monitoring	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Corrective Maintenance	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Routine Maintenance	0.00	0.00	0.00	0.03	0.02	0.02	0.02	0.03	0.08	0.10
Asset Management Planning	0.00	0.00	0.00	0.11	0.12	0.11	0.14	0.12	0.36	0.49
Dam Safety Compliance	0.00	0.00	0.00	0.19	0.69	0.24	0.45	0.49	1.19	1.88
Environmental Planning & Protection	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Corporate Systems	0.65	0.08	3.10	1.60	0.76	0.70	1.15	0.72	2.56	3.32
Drought projects (3 dams)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Drought projects (other)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Renewals and Replacement	4.81	2.58	0.58	1.84	1.79	2.09	3.10	1.86	7.04	8.83
Dam safety compliance on pre 1997 capital projects	0.01	-0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Structural and other enhancements	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Customer support	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Internal corporate projects	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total capex proposed by WNSW	5.47	4.67	3.78	4.00	4.33	4.01	4.85	3.23	12.09	16.42
Atkins/Cardno recommended adjustments for specific programs or projects										
PDMP reallocation from Corporate to Drought projects (3 dams)			-0.24	-0.04						
Water Delivery & Other Operations - Corporate Systems FY20 miscoding			0.15							
Flood operations - Corporate Systems FY20 miscoding			0.02							
Hydrometric monitoring - Corporate Systems FY20 miscoding			0.19							
Asset management planning - Corporate Systems FY20 miscoding			0.01							
Dam safety compliance pre1997 - Corporate Systems FY20 miscoding			0.07							
Environmental Planning & Protection - Corporate Systems FY20 miscoding			0.02							
Renewals and Replacement - Corporate Systems FY20 miscoding			0.09							
Corporate Systems - Corporate Systems FY20 miscoding			-0.56							
FR Corporate Systems RAB to Salary Allocation adjustment					0.04	0.03	0.03	0.02	0.09	0.13
FR Dam Safety Compliance RAB to Salary Allocation adjustment					0.01	0.01	0.02	0.01	0.05	0.06
FR Asset management planning RAB to Salary Allocation adjustment					0.01	0.00	0.00	0.00	0.01	0.02
FR Routine maintenance RAB to Salary Allocation adjustment					0.00	0.00	0.00	0.00	0.00	0.00
FR Renewals and Replacement RAB to Salary Allocation adjustment					0.00	0.00	0.00	0.00	0.00	0.00
FR - Corporate Scope and Reallocation				0.00	0.06	0.06	0.06	0.06	0.19	0.25
Sub Total adjustments	0.00	0.00	-0.24	-0.04	0.12	0.12	0.12	0.10	0.34	0.46
ADJUSTED EXPENDITURE BEFORE APPLICATION OF EFFICIENCY TARGETS										
Water Delivery & Other Operations	0.00	2.04	0.26	0.24	0.95	0.86	0.00	0.00	0.86	1.81
Flood Operations	0.00	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hydrometric Monitoring	0.00	0.00	0.19	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Water Quality Monitoring	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Corrective Maintenance	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Routine Maintenance	0.00	0.00	0.00	0.03	0.02	0.02	0.03	0.03	0.08	0.11
Asset Management Planning	0.00	0.00	0.01	0.11	0.13	0.11	0.14	0.12	0.37	0.50
Dam Safety Compliance	0.00	0.00	0.00	0.19	0.70	0.26	0.47	0.51	1.24	1.94
Environmental Planning & Protection	0.00	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Corporate Systems	0.65	0.08	2.30	1.55	0.86	0.79	1.24	0.81	2.84	3.70
Drought projects (3 dams)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Drought projects (other)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Renewals and Replacement	4.81	2.58	0.67	1.84	1.79	2.09	3.10	1.86	7.04	8.83
Dam safety compliance on pre 1997 capital projects	0.01	-0.04	0.07	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Structural and other enhancements	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Customer support	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Internal corporate projects	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total pre-efficiency	5.47	4.67	3.54	3.96	4.45	4.13	4.98	3.33	12.43	16.89
Atkins/Cardno recommended additional capital efficiency targets (beyond those applied by the company)										
Continuing Efficiency (%)				0.00%	0.70%	1.40%	2.09%	2.77%		
Continuing Efficiency (\$M)				0.00	-0.03	-0.06	-0.10	-0.09	-0.25	-0.28
Catch-up efficiency (%)				0.00%	2.11%	4.22%	6.83%	7.44%		
Catch-up efficiency (\$M)				0.00	-0.09	-0.17	-0.33	-0.24	-0.75	-0.84
ATKINS/CARDNO ASSESSMENT OF EFFICIENT EXPENDITURE										
(\$M 2020/21) year ending June	2018	2019	2020	2021	2022	2023	2024	2025	2023-25 Total	2022-25 Total
Water Delivery & Other Operations	0.0	2.0	0.3	0.2	0.9	0.8	0.0	0.0	0.81	1.73
Flood Operations	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00
Hydrometric Monitoring	0.0	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.00	0.00
Water Quality Monitoring	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00
Corrective Maintenance	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00
Routine Maintenance	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.08	0.10
Asset Management Planning	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.34	0.47
Dam Safety Compliance	0.0	0.0	0.0	0.2	0.7	0.2	0.4	0.5	1.13	1.81
Environmental Planning & Protection	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00
Corporate Systems	0.7	0.1	2.3	1.6	0.8	0.8	1.1	0.7	2.61	3.45
Drought projects (3 dams)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00
Drought projects (other)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00
Renewals and Replacement	4.8	2.6	0.7	1.8	1.7	2.0	2.8	1.7	6.47	8.21
Dam safety compliance on pre 1997 capital projects	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.00	0.00
Structural and other enhancements	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00
Customer support	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00
Internal corporate projects	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00
Total Efficient Expenditure	5.5	4.7	3.5	4.0	4.3	3.9	4.5	3.0	11.4	15.8
User Share Capital Expenditure	5.0	4.4	3.4	3.7	3.9	3.6	4.1	2.7	10.3	14.2
Government Share Capital Expenditure	0.5	0.2	0.2	0.3	0.4	0.3	0.5	0.3	1.1	1.6

Table A-26 – Operating Expenditure Fish River Water Scheme

WATERNSW RURAL BULK WATER PROPOSAL - OPEX - Fish River Water Scheme Valley

(\$M 2020/21) year ending June	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
Customer Support	0.00	0.00	0.03	0.01	0.01	0.17	0.23	0.23	0.22	0.22	0.22
Customer Billing	0.01	0.01	0.03	0.02	0.03	0.04	0.04	0.04	0.04	0.04	0.04
Metering and Compliance	0.05	0.07	0.15	0.14	0.07	0.08	0.09	0.09	0.09	0.10	0.10
Water Delivery and Other Operations	0.92	0.48	0.46	0.73	0.67	0.78	0.89	0.98	0.87	0.86	0.80
Flood Operations	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hydrometric Monitoring	0.02	0.02	0.01	0.01	0.01	0.05	0.19	0.20	0.19	0.21	0.19
Water Quality Monitoring	0.11	0.10	0.04	0.01	0.77	0.08	0.06	0.06	0.06	0.06	0.06
Corrective Maintenance	0.51	0.37	1.04	1.08	0.74	1.14	0.62	0.61	0.60	0.64	0.62
Routine Maintenance	1.25	1.23	0.97	2.48	2.70	2.39	2.47	2.45	2.41	2.55	2.53
Asset management planning	0.54	0.43	0.28	0.21	0.08	0.05	0.16	0.21	0.32	0.19	0.14
Dam Safety Compliance Capital Projects pre-1997	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Dam Safety Compliance	0.31	0.26	0.26	0.21	0.15	0.14	0.21	0.26	0.29	0.32	0.29
Environmental Planning and Protection	0.26	0.10	0.01	0.00	0.00	0.00	0.04	0.05	0.05	0.05	0.03
Direct Insurances	0.00	0.00	0.00	0.19	0.18	0.14	0.09	0.09	0.09	0.09	0.09
Renewal and Replacement	0.00	0.00	0.03	0.02	0.01	0.01	0.00	0.00	0.00	0.00	0.00
Corporate Systems	0.00	0.00	0.00	0.10	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Internal	0.05	0.00	0.00	0.00	0.04	0.16	0.00	0.01	0.15	0.15	0.15
New Metering and Compliance	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Environmental Delivery	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Fish River Water Scheme Valley - Total Operating Expend	4.03	3.08	3.32	5.21	5.47	5.23	5.11	5.27	5.39	5.49	5.27

Atkins/Cardno recommended scope adjustments

Customer Support	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01
Customer Billing	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Metering and Compliance	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Water Delivery and Other Operations	0.00	0.00	0.00	0.00	0.00	0.00	0.00	-0.01	0.01	0.00	0.03
Flood Operations	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hydrometric Monitoring	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01
Water Quality Monitoring	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Corrective Maintenance	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.03
Routine Maintenance	0.00	0.00	0.00	0.00	0.00	0.00	0.00	-0.02	0.02	-0.01	0.10
Asset management planning	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01
Dam Safety Compliance Capital Projects pre-1997	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Dam Safety Compliance	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01
Environmental Planning and Protection	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Direct Insurances	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Renewal and Replacement	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Corporate Systems	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Internal	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	-0.09	-0.09	-0.09
New Metering and Compliance	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Environmental Delivery	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Sub Total adjustments	0.00	0.00	0.00	0.00	0.00	0.00	0.00	-0.04	-0.04	-0.11	0.12

Atkins/Cardno recommended efficiency targets

Continuing Efficiency (%)								0.70%	1.40%	2.09%	2.77%
Continuing Efficiency (\$M)								-0.04	-0.07	-0.11	-0.15
Catch-up efficiency (%)								1.10%	2.19%	3.26%	4.33%
Catch-up efficiency (\$M)								-0.06	-0.12	-0.17	-0.23

ATKINS/CARDNO ASSESSMENT OF EFFICIENT EXPENDITURE

(\$M 2020/21) year ending June	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
Customer Support	0.00	0.00	0.03	0.01	0.01	0.17	0.23	0.22	0.21	0.21	0.21
Customer Billing	0.01	0.01	0.03	0.02	0.03	0.04	0.04	0.04	0.04	0.04	0.04
Metering and Compliance	0.05	0.07	0.15	0.14	0.07	0.08	0.09	0.09	0.09	0.09	0.09
Water Delivery and Other Operations	0.92	0.48	0.46	0.73	0.67	0.78	0.89	0.95	0.85	0.81	0.77
Flood Operations	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hydrometric Monitoring	0.02	0.02	0.01	0.01	0.01	0.05	0.19	0.19	0.19	0.19	0.19
Water Quality Monitoring	0.11	0.10	0.04	0.01	0.77	0.08	0.06	0.06	0.06	0.06	0.06
Corrective Maintenance	0.51	0.37	1.04	1.08	0.74	1.14	0.62	0.60	0.58	0.60	0.60
Routine Maintenance	1.25	1.23	0.97	2.48	2.70	2.39	2.47	2.39	2.35	2.41	2.45
Asset management planning	0.54	0.43	0.28	0.21	0.08	0.05	0.16	0.20	0.31	0.18	0.13
Dam Safety Compliance Capital Projects pre-1997	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Dam Safety Compliance	0.31	0.26	0.26	0.21	0.15	0.14	0.21	0.25	0.28	0.30	0.28
Environmental Planning and Protection	0.26	0.10	0.01	0.00	0.00	0.00	0.04	0.05	0.04	0.04	0.03
Direct Insurances	0.00	0.00	0.00	0.19	0.18	0.14	0.09	0.09	0.09	0.08	0.09
Renewal and Replacement	0.00	0.00	0.03	0.02	0.01	0.01	0.00	0.00	0.00	0.00	0.00
Corporate Systems	0.00	0.00	0.00	0.10	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Internal	0.05	0.00	0.00	0.00	0.04	0.16	0.00	0.01	0.06	0.06	0.06
New Metering and Compliance	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Environmental Delivery	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total Efficient Expenditure	4.03	3.08	3.32	5.21	5.47	5.23	5.11	5.14	5.16	5.09	5.02

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