2018 WATER AND SEWERAGE PRICE INVESTIGATION DRAFT REPORT

OFFICE OF THE TASMANIAN ECONOMIC REGULATOR

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EXECUTIVE SUMMARY

This Draft Report presents the preliminary outcomes of the independent Economic Regulator's third price determination investigation for the Tasmanian water and sewerage industry. The final outcomes of the investigation will depend on feedback received during consultation on this Draft Report.

The water and sewerage industry is critical to public health, environmental health and economic development potential across Tasmania.

Under the *Water and Sewerage Industry Act 2008* (Industry Act), the Economic Regulator is responsible for the independent regulation of TasWater's water and sewerage services. The Economic Regulator bases its price regulation activities on the legislated pricing principles set out in the Industry Act and proposed Price and Service Plans submitted by TasWater.

The Economic Regulator's purpose in conducting this particular investigation is to determine the appropriate prices and service levels for regulated water and sewerage services that will apply to TasWater during the third regulatory period (1 July 2018 to 30 June 2021).

TasWater owns, controls and operates water supply and sewerage systems in Tasmania. It manages all aspects of the water supply chain from dams and reservoirs to customer property connections and from customer sewer connections to wastewater treatment and disposal. As the primary provider of water and sewerage services in Tasmania, TasWater is subject to various public health, environmental and customer service regulatory requirements. The Economic Regulator aims to propose prices for TasWater's services that will provide it with sufficient revenue to:

- maintain financial sustainability;
- fund its proposed capital expenditure (capex) program, including its initiatives addressing non-compliance with required health, environmental and dam safety standards; and
- achieve the above objectives while managing the impact on customers of required increases in prices.

Building block approach

As it did for the first and second regulatory periods, the Economic Regulator has used a building block approach in calculating TasWater's maximum allowed regulated revenue (MARR) for the third regulatory period. The MARR caps the amount of revenue that TasWater can earn which, in turn, determines TasWater's prices. A building block approach calculates the MARR taking into account the costs involved in providing regulated services.

Revenue and prices

TasWater's calculation of its MARR for the third regulatory period translated into a 7.9 per cent price increase. However, having regard to customer feedback about price increases, TasWater proposed annual price increases of 4.6 per cent for the period.

The Economic Regulator's proposed adjustments to the various building cost components and its subsequent calculation of a lower MARR have resulted in TasWater's forecast regulated revenue (with a 4.6 per cent annual price increase) exceeding the Economic Regulator's calculation of TasWater's MARR by $9.2 million over the third regulatory period.

To ensure that TasWater's forecast regulated revenue does not exceed the Economic Regulator's calculation of TasWater's MARR, the Economic Regulator has proposed lower annual price increases for fixed water, fixed sewerage and variable water charges of 4.16 per cent.

The Economic Regulator's proposal will result in TasWater's prices increasing, relative to 2017-18 prices, over the third regulatory period, as shown in the following tables.

Economic Regulator's proposed target fixed water tariffs per connection for full service customers ($)

Water Connection Size	2017-18	Third regulatory period		
		2018-19	2019-20	2020-21
20mm	329.48	343.19	357.46	372.33

Economic Regulator's proposed target variable water charges per kilolitre of water ($)

	2017-18	Third regulatory period		
		2018-19	2019-20	2020-21
Full service (ie water of drinking water quality)	1.02	1.06	1.11	1.15

Economic Regulator's proposed target fixed sewerage tariffs for full service customers per Equivalent Tenement (ET) ($)

Number of ETs	2017-18	Third regulatory period		
		2018-19	2019-20	2020-21
1 ET	632.24	658.54	685.94	714.47

Under the Economic Regulator's proposed price increase, a typical residential customer using 200 kL of water per annum will see their annual bill increase by $50.

The Economic Regulator's estimate of TasWater's efficient costs together with the Economic Regulator's resultant estimate of TasWater's MARR for the third regulatory period is outlined in Chapter 11.

Since its formation in 2013, TasWater has been working to transition those customers currently paying below target tariffs for their water and/or sewerage services to the relevant targets. TasWater notes in its proposed Price and Service Plan that there will be approximately 7 500 customers still paying below target tariffs at the beginning of the third regulatory period. The legislation requires TasWater to complete the transition of all customers to target tariffs by 1 July 2020.

To achieve this outcome, the Economic Regulator intends to accept TasWater's proposed price transition arrangements:

- Customers within $50 of fixed target tariffs will move straight to the relevant target tariff in 2018-19.
- Customers more than $50 from fixed target tariffs will see annual increases of one third of the difference between the target tariffs in 2020-21 and the prices they are paying as at 30 June 2018.

In both cases the $50 cap increases in proportion to the size of the water connection and the estimated demand placed on the sewerage system.

Chapters 12 and 13 provide further information on the structure and basis of TasWater's proposed water and sewerage prices and price transition arrangements, along with the Economic Regulator's assessment of customer impacts.

Regulatory compliance

One of the key goals of TasWater's proposed Price and Service Plan for the third regulatory period is to improve its levels of compliance with regulatory obligations.

Broader regulatory compliance improvement and enforcement across the water and sewerage industry remains the responsibility of the Tasmanian industry regulators, being the Environment Protection Authority (EPA), Director of Public Health and the Secretary of the Department of Primary Industries, Parks, Water and Environment (DPIPWE), who is the Delegate for Dam Safety Regulation.

The Economic Regulator notes that TasWater has liaised with the other Tasmanian industry regulators in preparing its proposed Price and Service Plan. The Economic Regulator has also consulted with the other Tasmanian industry regulators to ensure TasWater's proposed Price and Service Plan meets their expectations and reflects the compliance improvement outcomes agreed to between TasWater and industry regulators.

Chapter 3 of this Draft Report provides more detail on regulatory compliance improvement.

Customer service

The Economic Regulator reviewed TasWater's proposed minimum customer service standards for the third regulatory period. Given the large investment required to improve water quality, dam safety and environmental outcomes, TasWater has proposed not to put further upward pressure on expenditure and prices by raising service standards in the third regulatory period.

Instead, TasWater proposed to maintain current targets for most service standards and to focus on meeting, rather than exceeding, these targets to avoid unnecessary expenditure. The Economic Regulator judged that, subject to minor amendment, TasWater's proposed minimum customer service standards satisfy the requirements of the Tasmanian Water and Sewerage Industry Customer Service Code (the Code).

TasWater's proposed Price and Service Plan for the third regulatory period also included a draft customer contract and draft policies in relation to its proposed pricing for particular water and sewerage services, together with policies governing its interactions with customers. The policies deal with issues such as:

- imposing developer charges;
- extending water and sewerage infrastructure;
- introducing new services;
- connecting customers to water and sewerage infrastructure;
- sub-metering arrangements; and
- charges in relation to unconnected properties.

The Economic Regulator reviewed the content of the policies proposed by TasWater and requested that TasWater make changes to ensure that these documents, and the customer contract, are satisfactory and comply with the relevant regulatory and legislative provisions.

Chapter 4 of this Draft Report provides a detailed discussion of TasWater's proposed policies, customer contract and customer service standards. The customer contract and policies are attached as appendices to this Draft Report.

Capital and operating expenditure

TasWater's cost components or building blocks include:

- operating and maintenance expenditure (opex);
- regulatory depreciation (return of capital); and
- cost of capital (return on capital).

Other key inputs that the Economic Regulator has used in calculating TasWater's maximum allowed regulated revenue are:

- capex; and
- regulated asset base (RAB).

To help with its investigation and to ensure TasWater's maximum regulated revenue is based on efficient costs, the Economic Regulator engaged an external consultant, the Arup Group (Arup), to conduct an independent review of TasWater's capex and opex. A copy of Arup's draft report is available on the Economic Regulator's website: www.economicregulator.tas.gov.au

Based on Arup's review, and its own analysis of TasWater's opex and capex, the Economic Regulator identified several areas in which it intends to require that TasWater reduce its proposed capex and opex for the third regulatory period, including:

- facilities, fleet and plant renewals capex;
- gifted assets capex;
- salaries opex;
- materials and services opex;
- chemicals opex; and
- fleet opex.

The Economic Regulator intends to require that TasWater achieve additional productivity savings on its proposed opex for the third regulatory period.

The Economic Regulator seeks stakeholder feedback on the possibility of changing the current timing for the recognition of TasWater's new capex assets in its RAB. The Economic Regulator believes that changing from the current practice of recognising assets once construction commences to recognising assets once they are fully operational may provide an increased incentive for TasWater to deliver its agreed capex projects on time and on budget.

The Economic Regulator notes that TasWater has made significant improvements in its capex planning and prioritisation for the third regulatory period. However, the Economic Regulator, industry regulators

and the Tasmanian Audit Office (TAO) have identified a need for TasWater to develop a long-term plan to achieve full regulatory compliance and operational efficiencies to avoid the risk of TasWater investing in redundant or stranded assets. Such a plan is considered a logical next step in TasWater's asset management and capex planning journey.

The Economic Regulator's proposed changes to TasWater's opex and capex are set out in the following table.

Table 1 Opex and Capex for the third regulatory period ($000's)

	TasWater proposal	TER proposal	Reduction
Capex	466 616	431 743	-34 873
Opex	538 732	521 859	-16 873

Chapters 6 and 7 of this Draft Report cover the Economic Regulator's analysis and intended reductions in TasWater's proposed capex and opex for the third regulatory period.

Regulatory depreciation

For the second regulatory period, the Economic Regulator applied a value weighted average approach to regulatory depreciation, and calculated regulatory depreciation rates for each of TasWater's asset categories after determining their useful lives. In its proposed Price and Service Plan for the third regulatory period, TasWater proposed applying a line by line approach to calculate the regulatory depreciation rates on all of its assets, ie new assets and existing assets.

The Economic Regulator intends to continue using a weighted average approach to calculating regulatory depreciation for TasWater's existing assets, but proposes using a line by line approach to calculate the regulatory depreciation on TasWater's new assets. Applying these approaches would lead to a reduction in TasWater's proposed regulatory depreciation for the third regulatory period.

Table 2 Regulatory depreciation for the third regulatory period ($000's)

	TasWater's proposal	Economic Regulator's proposal	Reduction
Existing Assets	218 509	149 412	-69 097
New Assets	126 223	124 179	-2 044
Total	**344 732**	**273 590**	**-71 142**

Chapter 8 provides more detail on regulatory depreciation.

Weighted Average Cost of Capital (WACC) and Return on Capital

As well as proposing to reduce TasWater's capex, opex and regulatory depreciation, the Economic Regulator proposes a lower WACC (Chapter 9) than that proposed by TasWater. The following table compares TasWater's proposed WACC components to those proposed by the Economic Regulator, along with the resultant WACC values.

Table 3 TasWater's and Economic Regulator's proposed WACC components and values

WACC component	TasWater's proposal	Economic Regulator's proposal
Gearing	60%	60%
Risk free rate	3.50%	2.90%
Debt risk premium	2.49%	2.03%
Debt issuance	0.10%	0.10%
Cost of debt (pre-tax)	6.09%	5.02%
Market risk premium	6.50%	6.50%
Equity beta	0.70	0.65
Statutory return on equity $_{(Existing)}$ (pre-tax nominal)	3.00%	3.00%
Gamma	0	0.4
Cost of equity$_{(New)}$ (post-tax)	8.05%	7.12%
$WACC_{EXISTING}$	**4.49%**	**4.00%**
$WACC_{NEW}$	**6.87%**	**5.86%**

Applying the Economic Regulator's proposed WACCs to its calculation of TasWater's RAB will also lead to a lower return on capital of $43.3 million for the third regulatory period as explained in Chapter 10.

Summary of the Economic Regulator's adjustments to TasWater's MARR

Table 4 provides a summary of the adjustments the Economic Regulator proposes making to TasWater's MARR for the third regulatory period.

Table 4 Summary of Economic Regulator's adjustments to TasWater's MARR for the third regulatory period ($000's)

Description	TasWater's proposed PSP	Economic Regulator's Draft Report	Proposed Adjustment
Opex	538 732	521 859	-16 873
Regulatory depreciation	344 732	273 590	-71 142
Return on capital	494 781	454 418	-43 363
Inflationary gain offset	-228 419	-221 374	7 045
Working capital	4 867	0	-4 867
Tax allowance	70 489	34 757	-35 732
TOTAL	**1 225 185**	**1 060 249**	**-164 936**

Finalisation of investigation

A summary of the Economic Regulator proposals from this Draft Report is included in a separate section below. An overview of the impact of those proposals on TasWater's MARR is also included in another separate section below.

The Economic Regulator encourages all interested parties to comment on the preliminary proposals set out in this Draft Report and the attached Draft Price Determination.The closing date for submissions is 25 January 2018.

Following consultation and consideration of submissions, the Economic Regulator will complete its investigation and publish its Final Report and Final Price Determination by April 2018.

OVERVIEW OF IMPACT OF ECONOMIC REGULATOR'S PROPOSALS ON TASWATER'S MAXIMUM ALLOWED REGULATED REVENUE

TasWater's MARR for each year of the regulatory period is calculated as follows:

MARR	=	Return on Capital
	+	Depreciation
	+	Opex

In its proposed Price and Service Plan, TasWater calculated its MARR, as shown in Table 1, using the components and inputs outlined in Tables 2, 3 and 4 below. TasWater's calculation of its MARR would result in annual price increases of 7.9 per cent.

However, in its Proposed Price and Service Plan, TasWater proposed an annual price increase of 4.6 per cent. TasWater's forecast regulated revenue, based on an annual 4.6 per cent price increase, is also shown in Table 1.

Table 1 TasWater's maximum regulated revenue and forecast regulated revenue ($'000s)

Reference	Description	2018-19	2019-20	2020-21
Proposed PSP, Section 8.8	TasWater's calculation of its MARR (7.9% price increase)	395 085	410 378	419 722
Proposed PSP, Chapter 9	TasWater's proposed price increase	4.6%	4.6%	4.6%
TasWater's Draft Pricing Model	TasWater's forecast regulated revenue	338 317	356 123	374 857
Economic Regulator's Draft Report, Section 11.3	Economic Regulator's calculation of TasWater's MARR	339 878	352 143	368 228
Economic Regulator's Draft Report, Section 13.1	Economic Regulator's proposed price increase	4.16%	4.16%	4.16%

Based on the components and inputs outlined in Tables 2, 3 and 4 below the Economic Regulator calculated TasWater's MARR, as shown in Table 1 to be lower than TasWater's forecast regulated revenue, and would result in an annual price increase of 4.16 per cent.

The Economic Regulator's calculation of TasWater's maximum regulated revenue, the variations between TasWater's proposed values and those proposed by the Economic Regulator and the reasons for those variations are outlined in Tables 2 to 4 inclusive for 2018-19 (1 July 2018 to 30 June 2021 for WACC components and WACCs in Table 4).

Table 2 Building block components - 2018-19

Draft Report reference	Building block component	TasWater's proposed value	Economic Regulator's proposed value	Impact of difference in values on revenue[1]	Comments/reason for change
Section 7.10	Opex	174 781	169 862	-4 919	Arup recommendations; Economic Regulator's productivity adjustment
Sections 8.7.1 and 8.7.2	Regulatory depreciation	109 967	86 705	-23 262	Maintain weighted average approach for existing assets and apply line by line approach for new assets
Section 11.2.1	Inflationary gain	-71 178	-71 354	-176	Correct calculation error
Section 11.2.3	Working capital	1 585	0	-1 585	TasWater has not justified the need for this allowance
Section 11.2.2	Tax allowance	22 021	10 781	-11 240	Correct calculation error

Table 3 Key inputs to maximum regulated revenue - 2018-19

Draft Report reference	Key inputs	TasWater's proposed value	Economic Regulator's proposed value	Impact of difference in values on revenue	Comments/reason for change
Section 6.5	Capex	143 362	131 675	-11 687	Arup recommendations; Economic Regulator's proposed adjustment for gifted assets
Section 10.2	Return on capital $[(RAB_{EXISTING} \times WACC_{EXISTING}) + (RAB_{NEW} \times WACC_{NEW})]$	157 908	143 884	-14 024	Reflects impact of the Economic Regulator's lower WACCs and different RABs

[1] Revenue impacts shown for each adjustment.

Table 4 WACC components, $WACC_{NEW}$ and $WACC_{EXISTING}$ - 1 July 2018 to 30 June 2021

Draft Report reference	WACC component	TasWater's proposed value	Economic Regulator's proposed value	Impact of difference in values on revenue	Comments/reason for change
Section 9.4.1	Gearing	60%	60%	n/a	No change
Sections 9.4.2 and 9.4.4	Risk free rate	3.50%	2.90%	-0.60%	Different methodology used
Sections 9.4.3.1 and 9.4.4	Debt risk premium	2.49%	2.03%	-0.46%	Different methodology used
Section 9.4.3.2	Debt issuance	0.10%	0.10%	n/a	No change
Section 9.5	Cost of debt (pre-tax)	6.09%	5.02%	-1.07%	Different methodology used
Section 9.4.5	Market risk premium	6.50%	6.50%	n/a	No change
Section 9.4.6	Equity beta	0.70	0.65	-0.05	Maintaining approach from the second regulatory period noting results from an international benchmarking study
Section 68(1A) of the WSIA	Statutory return on equity $_{(Existing)}$ (pre-tax nominal)	3.00%	3.00%	n/a	No change - set by legislation
Section 9.4.7	Gamma	0	0.40	0.40	Maintaining approach from the second regulatory period; public ownership of TasWater is not taken into account as the objective is to determine revenue for a benchmark, efficiently managed, *privately owned* business
Section 9.5	Cost of equity$_{(New)}$ (post-tax)	8.05%	7.12%	-0.93%	Calculated based on the Economic Regulator's proposed WACC components
Section 9.5	$WACC_{EXISTING}$	4.49%	4.00%	-0.49%	Calculated based on the Economic Regulator's proposed WACC components
Section 9.5	$WACC_{NEW}$	6.87%	5.86%	-1.01%	Calculated based on the Economic Regulator's proposed WACC components

SUMMARY OF THE ECONOMIC REGULATOR'S PROPOSALS

The Economic Regulator is seeking comments on the proposals set out in this Draft Report and in the attached Draft Price Determination, as well as on the specific issues included below and on any other relevant issues that have not been raised in this Draft Report.

To assist persons making submissions, the following provides a summary of the Economic Regulator's proposals and issues it has identified in relation to the proposed prices and service conditions associated with TasWater providing regulated water and sewerage services during the third regulatory period.

Once published the Final Price Determination will bind TasWater to apply the prices approved as part of that Determination and to the decisions contained in the Economic Regulator's Final Report.

Chapter 2 - Customer and stakeholder consultation

The Economic Regulator makes the following proposal in relation to customer and stakeholder consultation.

Proposal	Section
The Economic Regulator intends to conclude that TasWater has fulfilled the customer and stakeholder consultation requirements outlined in the Economic Regulator's Water and Sewerage Price and Service Plan Guideline.	2.4

Chapter 3 - Regulatory compliance improvement

The Economic Regulator makes the following proposals in relation to regulatory compliance improvement.

Proposal	Section
The Economic Regulator intends to require TasWater to further justify its proposed capex for the fourth regulatory period in the context of a long-term plan to achieve full regulatory compliance and operational efficiencies. The Economic Regulator intends to amend the *Tasmanian Water and Sewerage Industry Performance and Information Reporting Guideline* (November 2016) to require TasWater to: ▪ report annually against the key customer outcomes identified in its proposed Price and Service Plan for the third regulatory period; and ▪ provide more detailed information on the status of scheduled and completed projects.	3.6
The Economic Regulator intends to require TasWater to finalise, in consultation with relevant industry regulators, and provide it with its updated drinking water quality management plan, updated wastewater management plan and its new strategic plan for town dam schemes, by no later than 30 June 2018.	3.6

Chapter 4 - Customer service standards, customer contracts and policies

The Economic Regulator makes the following proposals in relation to customer service standards, customer contracts and policies.

Proposal	Section
The Economic Regulator intends to: ▪ approve the proposed minimum service standards, as outlined in Table 4.1, for application by TasWater for each year of the third regulatory period; and ▪ approve the service standard targets for each minimum service standard, as outlined in Table 4.1, subject to the amendment of out-year targets for the "Percentage of unplanned water supply interruptions restored within 5 hours" metric from 90 per cent to 94 per cent; and ▪ implement the newly approved minimum service standards by way of the Customer Service Code change process (for a 1 July 2018 commencement).	4.4.3 Service standards
The Economic Regulator intends to approve the draft 'Customer Contract', as provided at Appendix 2 to this Draft Report, for submission as part of TasWater's final Price and Service Plan.	4.7 Customer contract
The Economic Regulator intends to approve the draft 'Trade Waste Policy', as provided at Appendix 3 to this Draft Report, for submission as part of TasWater's final Price and Service Plan. The Economic Regulator also intends to require TasWater to explain and justify the addition of a 'Tankered Trade Waste' section, and the removal of the 'Customer Self-Assessment', 'Developer Charges' and 'Cancellation and Suspension' from its proposed trade waste policy in its final Price and Service Plan.	4.8 Trade waste policy
The Economic Regulator proposes to approve TasWater's retention of the current arrangements for developer charges associated with works internal and works external. The Economic Regulator proposes to approve TasWater's retention of the current arrangements for developer charges.	4.9.1 Developer charges policy
The Economic Regulator intends to approve the draft 'Land Development Policies' document, as provided at Appendix 4 to this Draft Report, for submission as part of TasWater's final Price and Service Plan. The Economic Regulator also intends to require TasWater to ensure that its final Price and Service Plan is updated to reflect the correct Development Fees as documented under section 5 of the attached 'Land Development Policies' document.	4.9.2 Service extension and expansion policy
The Economic Regulator intends to approve the draft 'Connection Policy', as included in TasWater's 'Water and Sewerage Network and Charges Policies' document provided at Appendix 5 to this Draft Report, for submission as part of TasWater's final Price and Service Plan.	4.10.1 Connection policy

Proposal	Section
The Economic Regulator also intends to require TasWater to explain and justify, in its final Price and Service Plan, the differences between its current connection policy (approved for the second regulatory period) and the connection policy TasWater is proposing for the third regulatory period.	
The Economic Regulator proposes to approve TasWater's retention of the current arrangements for sub-metering.	4.10.2 Sub-metering policy
The Economic Regulator intends to approve TasWater's continued application of service charges on vacant land within TasWater's serviced land boundaries. The Economic Regulator intends to approve that the service charge for water continues to be equal to the fixed water charge for 20mm connections. The Economic Regulator intends to approve that the service charge for sewerage continues to be 60 per cent of one ET fixed sewerage charge. The Economic Regulator intends to approve the draft 'Service Charges Policy', as included in TasWater's 'Water and Sewerage Network and Charges Policies' document provided at Appendix 5 to this Draft Report, for submission as part of TasWater's final Price and Service Plan.	4.10.3 Service charges policy
The Economic Regulator intends to approve the draft 'Service Introduction Charges Policy', as included in TasWater's 'Water and Sewerage Network and Charges Policies' document provided at Appendix 5 to this Draft Report, for submission as part of TasWater's final Price and Service Plan. The Economic Regulator intends to require TasWater to explain and justify, in its final Price and Service Plan, all of the differences between its current service introduction charges policy (approved for the second regulatory period) and the service introduction charges policy TasWater is proposing for the third regulatory period.	4.10.4 Service introduction charges policy
The Economic Regulator intends to approve TasWater applying the minimum water flow and minimum water pressure figures outlined in TasWater's Supplement to the Water Services Association of Australia's Water Supply Code of Australia in determining whether a property or part of a property is within serviced land. The Economic Regulator intends to require TasWater to publish TasWater's Supplement to the Water Services Association of Australia's Water Supply Code of Australia together with any other additional relevant information that would assist customers and stakeholders in determining whether their property or part of their property is within serviced land. The Economic Regulator intends to approve TasWater's approach to the definition of serviced land with limited service areas being removed from serviced land. The Economic Regulator intends to require TasWater to: publish separate descriptions of serviced land for water services and sewerage services; continue to make descriptions of serviced land for both water and sewerage services publicly available (eg on the entity's website, at a fixed address, by phone); and ensure that the description of serviced land is updated and published on a	4.11.7 Serviced land

Proposal	Section
regular and ongoing basis (ie on at least a monthly basis or when serviced land boundaries change). The Economic Regulator also intends to require TasWater to update its serviced land maps to reflect the new serviced land definition.	
The Economic Regulator intends to require TasWater to continue using the current service replacement process with minor changes to the definition of broad community support; the offer period and the use of the word "indicates" rather than "chooses". The Economic Regulator also intends to not allow TasWater to offer the option of paying cash to customers to undertake the installation of assets for service replacement.	4.12.4 Service replacement process

Chapter 5 - Demand forecasts

The Economic Regulator makes the following proposal in relation to demand forecasts.

Proposal	Section
Based on its assessment of TasWater's proposed demand forecasts, the Economic Regulator intends to accept TasWater's proposals.	5.4

Chapter 6 - Capex

The Economic Regulator makes the following proposals in relation to capex. The Economic Regulator also seeks feedback on the concept of recognising assets on commissioning, as set out in Section 6.4.3 of this Draft Report.

Proposal	Section
The Economic Regulator intends to accept that TasWater's capex during the second regulatory period was prudent and efficient.	6.2.1.6 Arup's findings - second regulatory period
The Economic Regulator intends to require TasWater to reduce its proposed facility, fleet and plant renewals capex, as set out in Table 6.5.	6.3.1.2 Facility, fleet and plant renewals
The Economic Regulator intends to reduce TasWater's expected capex for the third regulatory period by $10 million per annum to account for gifted assets.	6.4.2 Gifted assets
The Economic Regulator intends to reduce TasWater's expected capex for the third regulatory period, as set out in Table 6.9. The Economic Regulator seeks stakeholder feedback on the concept of recognising assets on commissioning, as set out in Section 6.4.3.	6.5

Chapter 7 - Opex

The Economic Regulator makes the following proposals in relation to opex.

Proposal	Section
The Economic Regulator does not intend to adjust TasWater's proposed opex for the third regulatory period based on its opex during the second regulatory period. The Economic Regulator intends to accept TasWater's rebasing of its opex for the third regulatory period.	7.3 Review of second regulatory period opex
The Economic Regulator intends to accept TasWater's proposed base year opex for the third regulatory period.	7.4 Base year for third regulatory period opex forecasting
The Economic Regulator intends to require that TasWater adjust its forecast salary costs for the third regulatory period, as shown in Table 7.4. The Economic Regulator intends to require that TasWater develop and deliver a five-year Labour Force Plan, to be reviewed and updated on a rolling three-yearly cycle. The Economic Regulator intends to require that, in future Price and Service Plans, TasWater justify its salary opex in terms of its Labour Force Plan.	7.6.1 Salaries
The Economic Regulator intends to require that TasWater adjust its forecast materials and services costs for the third regulatory period as shown in Table 7.5.	7.6.2 Materials and services
The Economic Regulator intends to require that TasWater adjust its forecast chemicals costs for the third regulatory period, as shown in Table 7.6.	7.6.3 Chemicals
The Economic Regulator intends to accept TasWater's forecast electricity costs for the third regulatory period, as shown in Table 7.7.	7.6.4 Electricity
The Economic Regulator intends to accept TasWater's forecast facility management costs for the third regulatory period, as shown in Table 7.8.	7.6.5 Facility management
The Economic Regulator intends to accept TasWater's forecast information management costs for the third regulatory period, as shown in Table 7.9.	7.6.6 Information systems
The Economic Regulator intends to require that TasWater adjust its forecast motor vehicles costs for the third regulatory period, as shown in Table 7.10.	7.6.7 Motor vehicle costs

Proposal	Section
The Economic Regulator intends to accept TasWater's proposed cost allocations for the third regulatory period.	7.7 Cost allocation
The Economic Regulator intends to require TasWater to achieve productivity savings above those it has proposed for the third regulatory period by reducing TasWater's opex by its forecast of the impact of capex on opex.	7.8 Productivity improvements/ efficiencies
The Economic Regulator intends to propose the adjustments set out in Table 7.11 to TasWater's opex for the third regulatory period.	7.10

Chapter 8 - Regulatory depreciation

The Economic Regulator makes the following proposals in relation to regulatory depreciation.

Proposal	Section
The Economic Regulator intends to require TasWater to calculate regulatory depreciation for existing assets using a value weighted average approach. The Economic Regulator intends to require TasWater to calculate regulatory depreciation for new assets using a line by line approach. The Economic Regulator also intends to require TasWater to apply the regulatory depreciation allowances for existing assets and new assets, as set out in Tables 8.7 and 8.8 respectively.	8.7

Chapter 9 - WACC

The Economic Regulator makes the following proposals in relation to the WACC.

Proposal	Section
The Economic Regulator intends to accept TasWater's proposal to apply a post-tax nominal vanilla WACC for the third regulatory period.	9.2 Type of WACC
The Economic Regulator intends to accept TasWater's proposed gearing ratio of 60 per cent in calculating the WACCs for the third regulatory period.	9.4.1 Gearing
The Economic Regulator intends to accept TasWater including debt issuance costs of 0.1 per cent in calculating the WACCs for the third regulatory period.	9.4.3.2 Debt issuance costs
The Economic Regulator intends to require TasWater to calculate the Risk Free Rate and Debt Risk Premium using the method specified in Section 9.4.4 of this Draft Report for the third regulatory period.	9.4.4 Method to calculate risk free rate and debt risk premium

Proposal	Section
The Economic Regulator intends to accept TasWater's proposal to apply a Market Risk Premium of 6.5 per cent in calculating the WACCs for the third regulatory period.	9.4.5 Market risk premium
The Economic Regulator intends to require TasWater to apply an equity beta of 0.65 in calculating the WACCs for the third regulatory period.	9.4.6 Equity beta
The Economic Regulator intends to require TasWater to apply a gamma of 0.4 in calculating the WACCs for the third regulatory period.	9.4.7 Gamma

Chapter 11 - Revenue requirement

The Economic Regulator makes the following proposals in relation to the revenue requirement.

Proposal	Section
The Economic Regulator intends to require TasWater to develop a Tax Asset Base prior to the commencement of the fourth regulatory period.	11.2.2 Tax allowance
The Economic Regulator intends not allowing TasWater's proposed working capital allowance.	11.2.3 Working capital allowance

Chapter 12 - Pricing structure

The Economic Regulator makes the following proposals in relation to pricing structure. The Economic Regulator also seeks feedback on TasWater's approach to transitioning customers facing a material bill increase as a result of an equivalent tenement reassessment, as shown in Section 12.11.2 of this Draft Report.

Proposal	Section
The Economic Regulator intends concluding that, once the STED tariffs are added and fixed water charges are applied to water carrier tariffs, public and private filling tariffs and portable metered standpipes, TasWater's proposed regulated services and proposed tariff structures satisfy the definition of a regulated service and are structured in line with the pricing principles respectively.	12.6 Structure of regulated prices
The Economic Regulator intends to approve TasWater's proposal to retain a single pricing zone for Tasmania for the third regulatory period.	12.7.3 Pricing zones
The Economic Regulator intends to require TasWater to include details about STED customers in its final Price and Service Plan. The Economic Regulator also intends to approve the customer classes TasWater has proposed for the third regulatory period.	12.8 Customer classes

Proposal	Section
The Economic Regulator intends to approve TasWater's proposal to base fixed water target tariffs on the proposed connection sizes and multipliers. The Economic Regulator intends to approve TasWater's proposal to charge limited supply customers 90 per cent of the fixed water target tariffs for each year of the third regulatory period. The Economic Regulator intends to approve TasWater's proposal to charge fire service customers 25 per cent of the fixed water target tariffs for each year of the third regulatory period. The Economic Regulator intends to approve TasWater's proposal to charge STED customers 70 per cent of the fixed sewerage target tariff for each year of the third regulatory period.	12.9 Fixed charges
The Economic Regulator intends to approve TasWater's continuation of the recovery of some fixed costs through variable charges for the third regulatory period. The Economic Regulator intends to approve TasWater's proposal to charge limited service customers 80 per cent of the variable water target tariffs for each year of the third regulatory period.	12.10 Variable charges
Having reviewed TasWater's proposals in relation to ET methodology for the third regulatory period, the Economic Regulator intends to: ▪ approve TasWater's proposal to apply the ET methodology in determining fixed sewerage charges; ▪ require TasWater to publish its justification of ET rates for property types that differ from those contained in the NSW Water Directorate's 2017 Section 64 Determinations of Equivalent Tenements Guidelines; ▪ require TasWater to publish any documents that are not publicly available, where they form the basis of its ET methodology; ▪ approve TasWater's approach to transitioning customers facing a material bill increase as a result of an ET reassessment; and ▪ support TasWater's proposed review of alternative sewerage charging methodologies operating in Australia and require TasWater to liaise with stakeholders and the Economic Regulator as part of the review, and to publish its findings when available. The Economic Regulator also intends to seek feedback from stakeholders on TasWater's approach to transitioning customers facing a material bill increase as a result of an ET reassessment.	12.11 Equivalent tenements
The Economic Regulator intends to require TasWater to publish its revised trade waste guideline at the same time that it publishes its final Price and Service Plan for the third regulatory period. The Economic Regulator intends to approve the proposed structure of TasWater's trade waste prices.	12.12 Trade waste

Proposal	Section
The Economic Regulator intends to approve TasWater's proposed simplification of its development application fees structure. The Economic Regulator intends to approve TasWater combining the Certificate for Certifiable Work/Certificate for Compliance fees and engineering design approval and asset creation services. The Economic Regulator also intends to approve the structure of TasWater's proposed miscellaneous fees and charges.	12.14 Miscellaneous services
The Economic Regulator intends to approve TasWater's proposal in relation to transitioning or moving customers directly to target tariff subject to feedback from stakeholders.	12.15 Moving customers directly to target tariffs

Chapter 13 - Prices and customer impacts

In relation to prices and customer impacts, the Economic Regulator makes the following proposals.

Proposal	Section
The Economic Regulator intends to require TasWater to apply the trade waste fees and charges for 2018-19, as set out in Table 13.8. The Economic Regulator intends to require TasWater to increase its trade waste fees and charges for 2019-20 and 2020-21 by 4.16 per cent. The Economic Regulator also intends to approve TasWater's proposed approach to transition trade waste customers to target for the third regulatory period. The Economic Regulator intends to approve TasWater's proposed approach to transitioning Category 3 and 4 trade waste customers to cost reflective charges.	13.2.2.1 Trade waste fees and charges
The Economic Regulator intends to accept TasWater's proposal to introduce a trade waste site constraint fee and intends to approve the proposed level of that fee for 2018-19. The Economic Regulator also intends to approve TasWater increasing this fee by 4.16 per cent per annum during the third regulatory period.	13.2.2.2 Trade waste site constraint fee
The Economic Regulator intends to accept TasWater's proposal to introduce a macerator fee and intends to approve the proposed level of that fee for 2018-19. The Economic Regulator also intends to approve TasWater increasing this fee by 4.16 per cent per annum during the third regulatory period.	13.2.2.3 Trade waste macerator charge
The Economic Regulator intends to approve TasWater's proposed miscellaneous fees and charges with the addition of an account establishment and closure fee and sewerage relocation and inspection cost fees.	13.2.3.1 Miscellaneous fees and charges

Proposal	Section
The Economic Regulator intends to approve TasWater's proposed development assessment fees. The Economic Regulator also intends to approve TasWater's proposed development assessment fees for 2018-19, as set out in Table 13.17. The Economic Regulator intends to require TasWater to increase development assessment service fees by the labour cost escalation factor of 2 per cent per annum.	13.2.3.2 Development assessment service fees
The Economic Regulator intends to accept TasWater's revised proposed price transition for customers paying less than target tariffs. The Economic Regulator also intends to require TasWater to write to all customers affected by the transition to target tariffs, prior to 30 June 2018, and inform them of the prices they will be charged in each year of the third regulatory period and the options available to them to assist in managing payments.	13.3 Proposed price transition

1 INTRODUCTION

This chapter provides an overview of the context, background and legislative and regulatory framework for the Economic Regulator's price determination investigation of the Tasmanian water and sewerage industry for the third regulatory period.

The chapter also discusses the role of the various industry regulators including the Economic Regulator and the purpose and scope of the price determination investigation.

1.1 Background

Independent regulation of prices in the Tasmanian water and sewerage industry commenced on 1 July 2012, with the first regulatory period covering the three financial years from 1 July 2012 to 30 June 2015. During the first regulatory period, the three previous regulated entities (Ben Lomond Water, Cradle Mountain Water and Southern Water) were required to comply with a Price Determination outlining prices and service standards to apply during the period.

On 1 July 2013, the three previous regulated entities were amalgamated to form a single regulated entity, the Tasmanian Water and Sewerage Corporation Pty Ltd (TasWater). Under the provisions of the *Water and Sewerage Corporation Act 2012* (Water and Sewerage Corporation Act), the Price Determinations made and the Price and Service Plans approved as part of the 2012 price determination investigation continued to apply to TasWater for the remainder of the first regulatory period.

In accordance with powers granted under the Industry Act, the Treasurer fixed the duration of the first regulatory period at three years and specified the minimum duration of each subsequent regulatory period (after the conclusion of the first regulatory period) to be three years. The Industry Act requires the Economic Regulator to declare the duration of each subsequent regulatory period.

On 5 June 2013, the Economic Regulator declared that the second regulatory period will cover the three year period from 1 July 2015 to 30 June 2018. As was the case for the first price determination investigation, the regulatory approach adopted for the second price determination investigation reflected the expectation that TasWater would earn revenue substantially below the level required to achieve full cost recovery and that further price reform was required to achieve equitable outcomes for customers. The requirement under section 15(d) of the Industry Act to take into account the impact on customers of the rate of change in prices, combined with the level of revenue under-recovery by TasWater, meant that movements in annual prices were, once again, regulated (that is, prices were determined by applying a limit on annual price movements).

On 22 June 2016, the Economic Regulator declared that the third regulatory period will cover the three year period from 1 July 2018 to 30 June 2021. In accordance with the Industry Act, and as part of the price determination investigation, TasWater was required to submit a proposed Price and Service Plan to the Economic Regulator. TasWater's proposed Price and Service Plan was required to clearly articulate and commit to a set of outcomes and prices to be delivered over the third regulatory period. TasWater's proposed plan is available on the Economic Regulator's website: www.economicregulator.tas.gov.au.

The first and second price determinations focused on achieving much greater equity in water and sewerage service pricing across Tasmania. Prior to the reforms, local councils used a range of different methods for pricing. As a result, customers across Tasmania were paying widely varying amounts for similar services.

By the end of the second regulatory period most customers will have transitioned from a range of different pricing regimes to common target tariffs. Therefore the third regulatory period is primarily focused on compliance improvement while managing price impacts on customers.

1.1.1 Industry structure

TasWater owns, controls and operates water supply and sewerage systems in Tasmania. TasWater manages all aspects of the water supply chain from dams and reservoirs to customer property connections and from customer sewer connections to wastewater treatment and disposal. TasWater is subject to various public health, environmental and customer service regulatory requirements.

TasWater is incorporated as a proprietary company limited by shares and owned by Tasmania's 29 local government councils. The councils, as shareholders, receive dividends, income tax equivalents and guarantee fee payments.

TasWater is controlled by an independent board of management consisting of a chairperson and six directors. The board reports to the Owners' Representatives who, in turn, report to the council owners.

1.2 Purpose of price investigation and price determination

The purpose of the price determination investigation is to gather information to enable the Economic Regulator to make a price determination in respect of regulated water and sewerage services provided by TasWater.

The Price Determination specifies the method for determining the maximum prices that TasWater can charge for the supply of regulated water and sewerage services for each financial year of the regulatory period, the 2018-19, 2019-20 and 2020-21 financial years.

The Price Determination is based on information provided by TasWater in its proposed Price and Service Plan, which was submitted to the Economic Regulator on 30 June 2017, as well as information gathered by the Economic Regulator as part of the price determination investigation.

1.3 Scope of the investigation

The price determination applies only to prices charged for regulated services.

Regulated services are services or activities requiring a licence under the Industry Act. In general, regulated services include reticulated water and sewerage services (including trade waste); activities that support those services (including the treatment of water and wastewater); and any ancillary activities where a miscellaneous fee is charged.

The Industry Act exempts some activities from economic regulation. In addition, Section 31 of the Industry Act allows the Minister to decide if an activity is to be regulated or unregulated. In terms of the services provided by the regulated entities, the Industry Act, and Clause 3 of the *Water and Sewerage Industry Declaration Order 2011*, specify the provision of the following services to be unregulated services:

- water for irrigation;
- reuse water; and
- stormwater services via a combined sewerage/stormwater system.

The Minister has also exempted a number of entities providing water and sewerage services from the requirement to be licensed under the Industry Act. This effectively means that TasWater is currently the only entity required to be licensed.

A person or entity is exempt from the requirement to be licensed if the person (including a body corporate or an unincorporated body of persons) owns or operates infrastructure used for the provision of a water or sewerage service to another person, or provides a relevant water or sewerage but the provision of the relevant service is ancillary to their primary purpose.

The following activities are also exempt from the requirement to be licensed:

- providing water and/or sewerage services, while owning or operating a caravan park, to a person occupying a site within the caravan park;
- providing water and/or sewerage services, while owning or leasing a building, to occupants of the building;
- providing water and/or sewerage services, while owning or managing a shopping centre, to occupants of the centre;
- providing water and/or sewerage services to another person for free; and
- providing water and/or sewerage services to not more than 250 customers.

1.4 Regulatory Framework

1.4.1 Tasmanian legislative framework

Economic regulation of the Tasmanian water and sewerage industry, and the conduct of the price determination investigation in particular, are governed by the:

- Water and Sewerage Corporation Act;
- Water and Sewerage Industry Act;
- *Water and Sewerage Industry (Pricing and Related Matters) Regulations 2011* (Pricing Regulations);
- *Water and Sewerage Industry (Customer Service Standards) Regulations 2009* (Customer Service Regulations);
- *Customer Service Code* (Code); and
- *Tasmanian Water and Sewerage Industry 2018 Price Determination Investigation Price and Service Plan Guideline* (June 2016) (PSP Guideline).

Economic regulation of the Tasmanian water and sewerage industry and the resultant price determination is focussed on both price and service outcomes.

1.4.2 Water and Sewerage Corporation Act

The Water and Sewerage Corporation Act provided for the formation of TasWater; the transfer of liabilities, employees and water and sewerage assets from the previous regulated entities to TasWater; and the continued application of the Economic Regulator's 2012 Price Determinations and Price and Service Plans to TasWater until the end of the first regulatory period on 30 June 2015.

1.4.3 Water and Sewerage Industry Act

The Industry Act is the primary legislative instrument governing the economic regulation of the industry.

In relation to pricing, the Industry Act provides for:

- an independent regulator (the Economic Regulator) for the sector with clear accountabilities and responsibilities to ensure effective and efficient outcomes for the sector and the protection of customers;
- independent pricing regulation with a regulated entity required to submit a proposed Price and Service Plan to the Economic Regulator which outlines the services, revenue requirements and operational requirements of the regulated entity. The Economic Regulator bases its price determination on an assessment of the proposed Price and Service Plan submitted by the regulated entity; and
- the Economic Regulator to be guided by legislated pricing principles when making a price determination.

The pricing principles specified in section 68 of the Industry Act are as follows:

- a regulated entity is to be given a reasonable opportunity to recover the efficient costs it incurs in:
  - providing a regulated service; and
  - complying with a regulatory obligation; or
  - complying with a requirement to make a regulatory payment under the Industry Act (except where the Industry Act provides otherwise);
- the price is to provide for efficient pricing by:
  - applying two-part pricing for water services based on the recovery of fixed costs and variable costs by way of a fixed charge and a variable charge (with the variable charge determined by the volume of water used as measured by a water meter); and
  - reflecting the costs of servicing particular customers or classes of customers in different locations, regions or schemes;
- the price is to provide effective incentives, with respect to a regulated service to:
  - promote economic efficiency;
  - reduce costs; or
  - otherwise improve productivity;
- the price is to allow a regulated entity to receive a return on assets used in providing the regulated service; and
- the price charged to a particular customer or class of customers is to reflect at least the costs that relate directly to providing the regulated service to that customer or class of customers to the extent that it is commercially and technically reasonable to do so.

In addition, section 68AA of the Industry Act acknowledges that the full application of the pricing principles will require a significant transition period. During this transition period, it is unlikely that all the pricing principles will be achieved and, therefore, reform objectives will need to be prioritised.

Section 68AA enables some of the pricing principles during the transition period not to be applied in Price and Service Plans and price determinations to the extent that the application of those principles would:

- result in a significant impact on customers, or a particular class of customers, due to the rate of change in prices;
- adversely affect the sustainability of a regulated entity in so far as it provides regulated services; or
- adversely affect the ability of a regulated entity to deliver regulated services.

For the purpose of section 68AA, the transition period is defined in the Pricing Regulations as the eight year period from 1 July 2012 to 1 July 2020 inclusive.

Due to the requirement for regulatory periods to be at least three years duration, the third regulatory period will not align with the end of the transition period on 1 July 2020.

Section 68AA does not apply to the matters the Economic Regulator is to take into account under Section 15 of the Industry Act, including the need for the Economic Regulator to consider the impact of the rate of change of prices on customers.

1.4.4 Water and Sewerage Industry Pricing Regulations

In addition to the pricing principles set out in the Industry Act, the Pricing Regulations contain additional pricing principles in relation to:

- pricing zones (nodal pricing);
- the structure of service introduction charges;
- the calculation of developer charges;
- the treatment of contributed assets; and
- the basis for setting fixed and variable charges (including the removal of free water allowances).

1.4.5 Customer Service Regulations and the Customer Service Code

The Customer Service Regulations stipulate minimum service standards for the water and sewerage industry. As required by the Customer Service Regulations, and to regulate the standards and conditions of supply for water and sewerage services, the Economic Regulator has:

- developed the Customer Service Code;
- established minimum service standard targets within the Customer Service Code; and
- required TasWater to develop a customer charter.

TasWater is required to comply with the Customer Service Code, which was last updated in July 2015.

Chapter 4 provides more detail about service standards and TasWater's regulatory obligations with respect to service standards.

1.4.6 Price and Service Plan (PSP) Guideline

In June 2016, the Economic Regulator issued a PSP Guideline to assist TasWater to prepare its proposed Price and Service Plan for the third regulatory period.

The PSP Guideline sets out the legislative and regulatory requirements that TasWater has to comply with when submitting its proposed Price and Service Plan. The PSP Guideline also sets out the key steps and timing for the third price determination investigation.

The Economic Regulator understands that the transition to an equitable pricing structure will be largely completed by the end of the second regulatory period. Therefore, for the third regulatory period, the Economic Regulator intends adopting an approach that reflects the following priorities:

- funding compliance investment in line with regulatory expectations;
- ensuring sufficient revenue for the efficient delivery of the required services; and
- continuing to manage the impact of price changes on customers.

Given these potentially competing objectives there will be some trade-offs between priorities. The overarching efficiency objective of the Industry Act will be given priority to resolve any conflicts between pricing objectives and principles.

The Economic Regulator will assess TasWater's proposed costs in providing water and sewerage services to customers together with the prices it intends charging over the regulatory period for the services it proposes.

In approving TasWater's proposed Price and Service Plan, the Economic Regulator must be satisfied that it will have sufficient revenue to meet its obligations and deliver the agreed standards of customer service while taking into account the impact of price changes on customers.

While the price determination investigation relates only to the third regulatory period, the Economic Regulator will, in making its determination, give consideration to proposals that are presented in the context of a longer term plan. The Economic Regulator may require TasWater to amend its proposed Price and Service Plan if it is not satisfied that it meets the requirements specified in the Guideline or the relevant Price Determination.

The Economic Regulator is also required to ensure that any tariff reforms are consistent with the pricing principles under the Industry Act or represent a transition towards achieving those principles.

In assessing TasWater's proposed Price and Service Plan, the Economic Regulator considered the pricing principles and the requirements contained in the PSP Guideline.

1.4.7 National reforms and legislation

Tasmania is a signatory to the National Water Initiative (NWI) Agreement which provides a blueprint for water reform in Australia. As a signatory to the NWI, the Tasmanian Government has developed and published a plan of how it will implement its commitments to the NWI.

The Implementation Plan sets out the actions that Tasmania has already completed and provides information on the tasks and timelines to complete the remaining commitments and the context within which these actions are being implemented.

The NWI prescribes two limits on the revenue that can be earned by a regulated water and sewerage business:

- the upper revenue limit (full cost recovery); and
- the lower revenue limit (sustainability threshold).

Under the NWI principles, a water and sewerage business should recover revenue at least equal to the lower revenue limit but no greater than the upper revenue limit. Revenue above the upper revenue limit represents monopoly profits.

For the first and second regulatory period, the Economic Regulator calculated three revenue limits; upper, statutory and lower. Calculation of the three limits was considered necessary during the transition of revenues to a level that represented at least a lower bound of cost recovery. The upper and lower limits were calculated in accordance with the NWI principles while the statutory revenue limit factored in the requirements in section 68(1A) of the Industry Act which are discussed in Chapter 11.

By the end of the second regulatory period TasWater's revenue will be approaching, or meet, the Economic Regulator's calculated statutory revenue limit. For these reasons, and to reduce TasWater's regulatory burden, the Economic Regulator will calculate only one regulated revenue limit for the third regulatory period.

1.4.8 State reforms

In March 2017, the Tasmanian Government announced that it would introduce legislation to take over ownership of TasWater from 1 July 2018. The Second Reading Speech, outlining the purpose and objectives of the Government's reforms, is available on the Parliament of Tasmania website: http://www.parliament.tas.gov.au/bills/Bills2017/pdf/notes/41_of_2017-SRS.pdf.

Two Bills were introduced into the House of Assembly on 8 August 2017 dealing with the proposed transfer of ownership of TasWater and its restructure as a Government Business Enterprise and regulatory reforms. The House of Assembly passed the Bills on 17 August 2017.

A Select Committee has been set up by the Legislative Council to "…inquire into and report upon …the benefits and challenges associated with the Tasmanian Government's proposal to take control of TasWater under State Government ownership."

The first reading in the Legislative Council occurred on 15 September 2017. Public hearings were also held in Launceston and Hobart during September 2017. Debate on the Government's legislation re-commenced in the Legislative Council on 15 November 2017. The Select Committee released its Final Report on 16 November 2017. The Report can be viewed via the following link: http://www.parliament.tas.gov.au/ctee/Council/Reports/two.171116.rpt.FINAL.ne.001.pdf.

Following debate on 23 November 2017, the Legislative Council voted against the legislation.

1.4.9 Industry regulators

The Economic Regulator is responsible for implementing and administering the economic regulatory framework for the water and sewerage industry in accordance with the Industry Act and its subordinate legislation.

Responsibility for environmental, fire safety, public health and dam safety regulation of the industry lies with the Director of the Environment Protection Authority, the Director of Public Health, Chief

Officer of the Tasmania Fire Service (TFS), and the Secretary of the Department of Primary Industries, Parks, Water and Environment (DPIPWE), who is the Delegate for Dam Safety Regulation, respectively.

Economic regulation of the industry and, more specifically, the price determination investigation, focuses on both price and service outcomes. Through the development of the Customer Service Code and the PSP Guideline, the Economic Regulator has sought to assist TasWater in addressing the Industry Act requirements in its proposed price and service plans, namely:

- identifying regulated water and sewerage services and determining service standards to be delivered to customers over the third regulatory period;
- determining the revenue required to deliver the regulated services to the agreed standards, based on efficient costs; and
- determining regulated prices (or tariffs) that meet the pricing principles.

The PSP Guideline requires TasWater, in conjunction with the other Tasmanian water and sewerage industry regulators, to establish regulatory compliance improvement outcomes to be achieved during the price determination investigation. These outcomes will be based on compliance improvement priorities identified by the Tasmanian industry regulators. Capex programs proposed in TasWater's Price and Service Plan were required to reflect these compliance improvement priorities.

In conducting its price investigation, and making a price determination, the Economic Regulator expects TasWater will spend a certain amount of capex. However, this expectation is not a cap on the amount of capex that TasWater can spend. This means that TasWater can spend in excess of this allowance, with the excess taken into account in calculating TasWater's revenue requirement, provided the expenditure was necessary (prudent) and the most cost effective solution was adopted (efficient). More details about the prudency and efficiency tests are outlined in Chapters 6 and 7.

The price determination does not, however, authorise capex as being sufficient to meet the compliance improvement priorities of the Tasmanian industry regulators. Compliance improvement and compliance enforcement remain the responsibility of the relevant Tasmanian industry regulators (the Environment Protection Authority, Director of Public Health, the TFS and the Delegate for Dam Safety Regulation). More information on regulatory compliance improvement is contained in Chapter 5.

1.4.9.1 Director, Environment Protection Authority

The Director of the EPA is one member of the Board of the EPA.

The EPA administers and enforces the provisions of the *Environmental Management and Pollution Control Act 1994* (EMPCA). The functions of the EPA, with respect to the water and sewerage sector, include the assessment and regulation of significant wastewater treatment plants (WWTPs), defined as Level 2 WWTPs (plants discharging greater than 100 kilolitres per day).

The responsibilities of the EPA in regulating Level 2 WWTPs include:

- undertaking environmental impact assessments in relation to proposals for new WWTPs or significant changes to existing WWTPs;
- developing legally binding environmental conditions for approved WWTPs, which are included as part of the planning permit or as a stand-alone environment protection notice (EPN);
- applying the Tasmanian policy framework in relation to water quality management as is relevant for wastewater activities and updating environmental conditions where necessary; and

- ensuring compliance with environmental conditions largely through collection and evaluation of data on specified discharge limits and the impacts on the receiving environment.

The EPA also offers advice and guidance in relation to a broad range of wastewater issues including pumping stations, wastewater reuse, trade waste and biosolids reuse through the provision of policies and guidelines.

The EPA has released environmental guidelines governing the use of recycled water and biosolids and the recycling of wastewater and biosolids in Tasmania. The guidelines provide a framework for the sustainable reuse and recycling of water, wastewater and biosolids in a manner which is not only practical and safe for agriculture, the environment and the public, but also consistent with industry standards and best practice environmental management.

1.4.9.2 Director of Public Health

The functions of the Director of Public Health with respect to drinking water are to:

- protect public health with respect to the supply of drinking water;
- establish drinking water quality performance standards;
- monitor water suppliers performance against the standards and requirements prescribed by the *Public Health Act 1997* (and the associated Tasmanian Drinking Water Quality Guidelines 2005), the *Fluoridation Act 1968*, the *Fluoridation (Interim) Regulations 2009* and the *Australian Drinking Water Guidelines 2011*;
- enforce compliance with the requirements prescribed by the above mentioned Acts and guidelines;
- report on the water supplier's compliance with the prescribed standards;
- provide oversight of the fluoridation program in Tasmania through the Fluoridation Committee; and
- develop and implement strategies to promote and improve public health.

1.4.9.3 Chief Officer of the Tasmania Fire Service (TFS)

The regulatory authority for fire safety in Tasmania is the TFS. The responsibilities of its Chief Officer, who is also Chairperson of the State Fire Commission, include:

- developing and implementing appropriate fire prevention and community preparedness strategies;
- establishing fire brigades that are trained, resourced and available to respond to fires; and
- maintaining other arrangements as are necessary to ensure ongoing capacity to deliver effective and efficient fire prevention and protection measures throughout Tasmania.

Under the *Building Regulations 2014* and *Fire Service (Miscellaneous) Regulations 2007*, the TFS is required to inspect and report on the installation of new fire hydrants. The TFS is also required to comment on the suitability of the water flows and pressure as part of this reporting, including testing for the required flows and pressures when a new hydrant is commissioned.

TasWater's obligations under the Industry Act, with respect to fire safety, relate to:

- the installation of fire hydrants in its water infrastructure at distances and locations as necessary for the ready supply of water to control and extinguish fires; and
- the need to keep its water infrastructure charged with water where that infrastructure supplies water to a fire hydrant.

The Industry Act provides that TasWater can also impose a ban on the use of outdoor water on days declared by the TFS to be days of total fire ban. Limiting non-essential water use such as garden watering or lawn sprinklers on days of total fire ban can help to ensure that the TFS and residents who may be facing a bushfire threat have water available for fire-fighting and prevention.

1.4.9.4 Delegate for Dam Safety Regulation

The Minister for Primary Industries and Water has regulatory oversight for dam safety through administration of the *Water Management Act 1999* and the *Water Management (Safety of Dams) Regulations 2003*. The key functions of the Minister concerning dam safety regulation, which have been delegated to the General Manager, Water and Marine Resources Division, relate to:

- developing prescribed standards required for the design, construction, maintenance, surveillance and decommissioning of dams, and ensuring compliance with those standards (these standards are largely based on the criteria and guidelines produced by the Australian National Committee on Large Dams); and
- formulating measures to ensure the safety of dams and, in particular, plans to remove or minimise risks to persons, property or the natural environment arising from a dam safety incident.

The Water Operations Branch, of the Water and Marine Resources Division of DPIPWE, administers the dam safety legislation. This is primarily implemented through:

- reviewing new dam applications to ensure dams are constructed to contemporary safety standards and in accordance with the statutory requirements; and
- a program ensuring owners of existing dams meet their statutory dam safety responsibilities by monitoring, reviewing and managing dam safety as required by the above mentioned Act and Regulations which incorporate the national dam safety guidelines.

1.5 Approach to third Price Determination Investigation

This section:

- provides an overview of the Economic Regulator's approach to the third independent price determination investigation for the Tasmanian water and sewerage industry;
- outlines the Economic Regulator's approach to assessing the appropriateness of TasWater's proposed opex and capex; and
- provides background on key regulatory issues and explains how they were managed during the investigation.

1.5.1 Building block approach

As for the first and second regulatory periods, the Economic Regulator proposes to use a building block approach to the determination of TasWater's maximum allowed regulated revenue. The maximum allowed regulated revenue, caps the amount of revenue that TasWater can earn, which, in turn, determines TasWater's prices.

Under a building block approach the maximum allowed regulated revenue for each financial year of the regulatory period is calculated after taking into account the costs that are incurred in providing regulated services. These cost components or building blocks include:

- opex;
- regulatory depreciation; and
- cost of capital.

Other key inputs used in the calculation of TasWater's maximum allowed regulated revenue are:

- capex; and
- RAB (return on capital).

Each of these building blocks are discussed in detail in Chapters 7, 8 and 9 respectively of this Draft Report. Capex and the RAB are discussed in Chapters 6 and 10 respectively.

Chapter 11 summarises the Economic Regulator's estimated value for each component together with the Economic Regulator's resultant estimate of TasWater's maximum allowed regulated revenue for the third regulatory period.

1.5.2 Investigation process

As part of the 2018 price determination investigation, TasWater was required to prepare, and submit to the Economic Regulator by 30 June 2017, its proposed Price and Service Plan setting out its costs and proposed prices and services.

TasWater's proposed Price and Service Plan was submitted to the Economic Regulator on 30 June 2017.

The Economic Regulator reviewed the information contained within TasWater's proposed Price and Service Plan including its proposed:

- service obligations;
- revenue requirements, including opex and capexneeds;
- demand forecasts; and
- pricing proposals and customer impact analysis.

Where the Economic Regulator considered the information was deficient or did not comply with the Industry Act, the Pricing Regulations, the Customer Service Code or the PSP Guideline, the Economic Regulator requested TasWater to submit additional or revised information.

This Draft Report outlines the Economic Regulator's draft decisions on TasWater's proposed service levels, revenue requirements, demand forecasts and pricing proposals taking into account any additional or revised information submitted by TasWater.

The Economic Regulator has also made a draft Price Determination (Appendix 1) specifying the method for determining the maximum prices that TasWater can charge for the supply of regulated water and sewerage services for the third regulatory period.

1.5.3 Publicity and consultation

1.5.3.1 Publicity and consultation carried out to date

On 17 June 2016, the Economic Regulator published its PSP Guideline for the price determination investigation.

The Economic Regulator published a draft guideline and complementary Consultation Paper which highlighted the issues addressed in the draft guideline and sought stakeholder feedback.

The PSP Guideline specifies the legislative and regulatory requirements that TasWater must comply with when submitting its proposed Price and Service Plan. TasWater was required to prepare its proposed Price and Service Plan in accordance with the PSP Guideline, including consulting with customers and other stakeholders, and submit it to the Economic Regulator by 30 June 2017.

The Economic Regulator considered the comments made in submissions on the draft guideline before releasing a final version of the PSP Guideline.

On 1 July 2017, the Economic Regulator notified, through the three regional Tasmanian newspapers, its intention to conduct a price determination investigation and make a Price Determination.

1.5.3.2 Further consultation

The Economic Regulator invites written comments (preferably by email) on this Draft Report and the draft Price Determination. Submissions will be considered prior to the Report and the Price Determination being finalised and must be received by the close of business on 25 January 2018.

1.5.4 Key steps and timelines

Table 1.1 sets out the key steps in, and timelines for, the investigation.

Table 1.1 Timetable for the third price determination investigation

Action	Due date
Draft Report and draft Price Determination released for public consultation	30 November 2017
Consultation on Draft Report and draft Price Determination closes	25 January 2018
Final Report published and final Price Determination published and gazetted	30 April 2018
TasWater to submit revised 2018-21 Price and Service Plan reflecting the requirements outline in the Price Determination and Final Report	31 May 2018
Economic Regulator approves Price and Service Plan	14 June 2018
Third Price Determination commences	1 July 2018

1.6 Assessing opex and capex

The Economic Regulator engaged Arup to carry out an independent expert review of TasWater's proposed opex and capex. Arup's review considered the adequacy, appropriateness and efficiency of

the levels of opex and capex incurred by TasWater since the start of the current price determination on 1 July 2015, as well as TasWater's current, forecast and proposed levels of opex and capex. In particular, Arup assessed the efficiency and prudency of:

- the actual opex incurred by TasWater for the period 1 July 2015 to 30 June 2017;
- the actual capex incurred by TasWater for the period 1 July 2015 to 30 June 2017;
- TasWater's budgeted opex for the period from 1 July 2017 to 30 June 2018;
- TasWater's budgeted capex for the period from 1 July 2017 to 30 June 2018;
- TasWater's proposed opex for the period from 1 July 2018 to 30 June 2021; and
- TasWater's proposed capex for the period from 1 July 2018 to 30 June 2021.

Assessing the prudency of capex helped the Economic Regulator to determine how much of the capex incurred/to be incurred during the current regulatory period, ending on 30 June 2018, should be included in TasWater's RAB for the start of the upcoming regulatory period (see Chapter 10). The Economic Regulator then used this RAB value to calculate TasWater's WACC (Chapter 9).

The objective of the consultancy was to assess TasWater's expenditure proposals and provide advice, so that the Economic Regulator could ensure that only those assets used to deliver regulated services and only efficient costs were taken into account when calculating revenue limits for the purpose of determining water and sewerage prices. Arup's draft report has been released with this Draft Report.

TasWater provided, as part of its proposed Price and Service Plan, its proposed capex, opex and depreciation expense data to determine annual revenue limits reflecting the amount to be invested in new regulated assets required to deliver its water and sewerage services.

In assessing the proposed capex programs, the Economic Regulator has consulted with officers of the other Tasmanian water and sewerage industry regulators to ascertain whether the proposed capex program will achieve their respective expected outcomes in relation to regulatory compliance improvement over the third regulatory period.

Chapter 3 provides further details about regulatory compliance improvement expectations during the third regulatory period.

1.7 Assessment of proposed Price and Service Plan

In assessing TasWater's proposed Price and Service Plan, the Economic Regulator considered:

- whether the proposed Price and Service Plan was consistent with, or was working towards, the pricing principles;
- how and to what extent the proposed Price and Service Plan addresses the price reform priorities established by the Economic Regulator;
- customer engagement undertaken by TasWater; and
- the customer impacts flowing from the proposed Price and Service Plan.

Consistent with the "propose and respond" nature of the regulatory framework, the Economic Regulator considered that TasWater was best placed to develop models to support pricing proposals and assess customer impacts as it holds detailed customer and usage information.

The PSP Guideline requires TasWater to propose the structure and the amount of constraints on annual price changes in its proposed Price and Service Plan. During the price determination investigation, the Economic Regulator also required TasWater to have the capability to model alternative price constraint scenarios.

For TasWater's proposed price constraints, its proposed Price and Service Plan is required to specify the estimated total regulated revenue and Net Profit After Tax for each financial year of the third regulatory period.

In relation to customer impacts, the PSP Guideline states that TasWater's pricing proposal should:

- explain and justify any proposed price movements including any constraints upon price movements;
- explain and justify how the transition of all customers to the relevant target tariff will be achieved by 1 July 2020;
- demonstrate and quantify expected customer impacts of proposed price movements and any proposed price constraints; and
- be supported by a model that:
  - is based on TasWater's Regulatory Financial Statements (as defined in the Economic Regulator's *Water and Sewerage Regulatory Accounting Ring Fencing Guideline - March 2016* (Ring Fencing Guideline)); and
  - includes the calculations used to develop the proposed pricing proposals.

TasWater provided its Pricing Model to the Economic Regulator on 30 June 2017, when it submitted its proposed Price and Service Plan.

1.8 Amending the price determination within the regulatory period

The need for certainty is considered important as the industry continues to move through a reform transition period. To maximise certainty for TasWater, owner councils, stakeholders and customers, the Pricing Regulations permit price adjustments in limited specified circumstances. That is, prices may be adjusted only if there has been a material change in the costs incurred by a regulated entity as a result of complying with one or more of the following events, which may occur after the Price Determination has been made:

- new or amended legislative requirements; or
- a tax event (as defined in the Pricing Regulations).

Prices will not be reviewed annually. Rather, TasWater will be responsible for proposing any adjustments in line with the terms of the Price Determination and the requirements of the Pricing Regulations.

All other variations between forecasts and actual outcomes over the third regulatory period will, therefore, need to be managed by TasWater, including any differences between forecast and actual CPI.

The next (fourth) price determination investigation will review any differences between forecast and actual outcomes that occurred during the third regulatory period and recommend appropriate actions to account for those variations.

1.9 Regulatory Accounting

The Economic Regulator requires an understanding of the nature and substance of TasWater's business activities to effectively monitor TasWater's compliance with the relevant price determination and conduct pricing inquiries and investigations.

Section 64(2) of the Industry Act gives the Economic Regulator the power to issue guidelines requiring the separation of a regulated entity's accounts and functions. The Economic Regulator released the current version of its Ring Fencing Guideline in March 2016. The objectives of the Ring Fencing Guideline is to establish the detailed accounting and information requirements necessary to enable the Economic Regulator to carry out its responsibilities under the Industry Act.

The objectives of accounting ring fencing are to:

- provide the Economic Regulator with sufficiently detailed and accurate information to undertake Price Determination investigations;
- facilitate the monitoring of compliance with any relevant Price Determinations;
- facilitate the effective regulation of monopoly activities by identifying and attributing expenditure and revenue to relevant business segments;
- facilitate the introduction of competition wherever possible by identifying and ring fencing, regulated and unregulated services; and
- prevent the anti–competitive effects of cross–subsidies between regulated and unregulated activities.

1.10 Expression of values

Unless noted otherwise, all values in this Draft Report are in nominal terms.

Values from the Economic Regulator's 2015 Price Determination Investigation were expressed in real $2014-15. For comparison purposes in this Draft Report, these values have been converted into nominal dollars relevant to the year in question.

2 CUSTOMER AND STAKEHOLDER CONSULTATION

TasWater is a provider of essential services in Tasmania, and it is imperative that it provides these services in a manner that customers and stakeholders can easily understand, and is consistent with their needs and expectations.

To help ensure this, the Economic Regulator required TasWater to consult with its customers and stakeholders during the development of its proposed Price and Service Plan. TasWater was further required to provide details onthe the extent and nature of its consultation processes in its proposed Price and Service Plan including matters on which it had consulted and the feedback it received in response.

Specifically, the Economic Regulator required TasWater's proposed Price and Service Plan to include the following information:

- an outline of the consultation undertaken with industry regulators, customers and stakeholders during the preparation of the proposed Price and Service Plan;
- the objectives of the consultation, specifying issues consulted on and the consultation methods used;
- a summary of feedback received from customer committees, customers and other stakeholders during consultation processes;
- an explanation of how consultation outcomes are reflected in the proposed Price and Service Plan; and
- any significant issues of customer interest the Economic Regulator should be aware of in its consideration of TasWater's proposed Price and Service Plan – particularly where TasWater has decided not to address these concerns.

The Economic Regulator also requires that TasWater present its proposed Price and Service Plan (and any supporting consultation information) in plain English so a wide range of stakeholders could understand it.

This chapter outlines the Economic Regulator's understanding, based on the information provided by TasWater, of the consultations that occurred between TasWater and its customers and stakeholders to inform the development of TasWater's proposed Price and Service Plan, and how the proposed Price and Service Plan reflects the outcome of these consultations.

2.1 TasWater's approach for the second regulatory period

In its *Tasmanian Water and Sewerage Industry 2014-15 Price Determination Investigation Price and Service Plan Guideline,* (October 2013), the Economic Regulator required TasWater to include a chapter dedicated to its customer and stakeholder consultation process but did not specify what that chapter should contain. TasWater consequently provided only a relatively brief description of its consultation methods and some of the feedback it received.

In preparing its Price and Service Plan for the second regulatory period, TasWater used three main methods of customer and stakeholder consultation:

- targeted market research, including a phone survey and regional focus groups;
- one-on-one discussions with key stakeholders; and
- inviting written submissions in response to its proposed Price and Service Plan.

Most of TasWater's discussion of its customer and stakeholder consultation process in its Price and Service Plan for the second regulatory period focused on the submissions it received in response to its proposed Price and Service Plan, and how it had addressed (or not addressed) those issues in the final Price and Service Plan. TasWater included minimal information about the feedback it received from its other forms of customer and stakeholder consultation, and no information about how it had incorporated that feedback in the preparation of its Price and Service Plan.

Given the shortcomings of TasWater's discussion of its customer and stakeholder consultation methods and their outcomes in its Price and Service Plan for the second regulatory period, the Economic Regulator provided more prescriptive guidelines for the content of the customer and stakeholder consultation chapter in TasWater's proposed Price and Service Plan for the third regulatory period.

2.2 TasWater's approach for the third regulatory period

TasWater's approach to customer and stakeholder consultation during the development of its proposed Price and Service Plan for the third regulatory period comprised four main elements:

- a Consultation Issues Paper aimed at informing customers and stakeholders of TasWater's key challenges and priorities entering the third regulatory period;
- focus groups and telephone surveys involving representative cross-sections of TasWater's customer group;
- one-on-one interviews with TasWater's key stakeholders, peak bodies and regulators allowing detailed discussion and feedback on TasWater's key challenges and priorities; and
- a summary to customers and stakeholders of the feedback received during the consultation process, and an explanation of how and why TasWater planned to act (or not act) on it.

The Economic Regulator notes that TasWater based its consultation approach on the International Association for Public Participation's Community Engagement Spectrum, which is widely viewed as an example of industry best practice in customer and stakeholder consultation. TasWater also appeared to expand and build on its consultation approach from the second regulatory period.

The following sections outline further details of the main engagement methods used by TasWater during its customer and stakeholder consultation, as provided to the Economic Regulator by TasWater.

2.2.1 Consultation Issues Paper

TasWater published its Consultation Issues Paper for the third regulatory period on its Yoursay website on 16 December 2016. The paper included information in response to various issues raised by customers and stakeholders in discussions with TasWater, addressing among other things:

- TasWater's priorities for action and expenditure during the third regulatory period;
- what TasWater customers would view to be reasonable and acceptable service charges;
- the relationship between customer charges and TasWater's service standards;

- an explanation of TasWater's serviced land policy and charges;
- the cost of new developments to the water and sewerage system, and how TasWater can recover these costs; and
- TasWater's trade waste policy and practices.

TasWater invited submissions in response to the issues raised in the paper, or any other matters that customers and stakeholders wished to raise with TasWater, via its Yoursay website, email, telephone or hardcopy post. Submissions in response to the paper closed on 17 February 2017.

2.2.2 Focus groups

During December 2016, TasWater conducted a series of six focus groups; three with residential customers (one each in Hobart, Launceston and Devonport) and three with small and medium business customers (one each in Hobart, Launceston and Devonport). These focus groups sought specific customer feedback and perceptions on the issues covered in TasWater's Consultation Issues Paper.

2.2.3 Individual interviews and discussions

TasWater held individual interviews and discussions with representatives from its major business customers, and with various peak bodies acting on behalf of the business and community sectors. These interviews covered topics largely based on the Consultation Issues Paper.

According to the information provided by TasWater, around 60 of its major business customers participated in the interview process, including major processing plants, public housing managers, operators of aged and community care facilities and agricultural operations. TasWater reported that the interviews with these customers typically lasted between 20 and 60 minutes, depending on the level of interest and the number and complexity of issues raised.

TasWater also consulted with 13 peak bodies, either by phone or by face-to-face interview.

2.2.4 Telephone surveys

In early 2017, TasWater engaged ORC International (ORC) to conduct a telephone survey of TasWater customers. The survey sample consisted of 511 customers, of whom 105 were business customers and 406 residential customers. Based on information provided by TasWater, this sample size ensured a statistically valid representation of the views of TasWater's customer base.

ORC used random digit dialling to contact residential customers from across TasWater's geographical service area, and selected a random group of business customers from TasWater's databases. The survey only included customers who receive bills from TasWater for water and sewerage services.

TasWater notes that the raw data received in response to the survey may not be representative of the general Tasmanian population, as some Tasmanians (for example residential renters) receive water and sewerage services from TasWater but do not receive bills, while others live in areas that do not receive reticulated water and sewerage services. To correct for these potential differences between TasWater's customer base and the broader population of Tasmania, and consistent with industry standards, ORC applied a demographic weighting to the survey results.

The telephone survey questions covered topics including TasWater's priorities for expenditure and outcomes during the third regulatory period, pricing and tariff structures, price and service trade-offs, and policies.

2.3 Outcomes from TasWater's engagement

The following sections summarise the feedback that TasWater received from its customer and stakeholder engagement during the development of its proposed Price and Service Plan for the third regulatory period, and how TasWater has incorporated this feedback into the proposed Price and Service Plan. The basis for these sections is information that TasWater provided to the Economic Regulator.

2.3.1 Customer priorities for TasWater

Participants in TasWater's focus groups and individual interviews consistently identified the following four matters as priorities for TasWater (in order of importance):

- providing safe drinking water to customers;
- treating sewage and wastewater to agreed environmental discharge standards;
- ensuring adequate supply of water to meet community needs; and
- maintaining the structural safety of dams and reservoirs.

The telephone surveys of TasWater customers returned similar results, although TasWater reports that while there was a very high awareness among the customer base of TasWater's challenges in providing safe drinking water, there was a much lower awareness of the challenges posed by dam safety issues.

The Economic Regulator notes that this list, and order of priorities, aligns with TasWater's Long Term Strategic Plan 2018-2037 (October 2017) (LTSP).

2.3.2 Investment to address key challenges

TasWater invited customers and stakeholders to provide their views on how TasWater should prioritise its spending to address key issues, and whether TasWater's current balance between opex and capex seems appropriate.

As noted above, the customers and stakeholders consulted during this process broadly agreed with TasWater's current investment and expenditure priorities. Some also recognised that the expenditure required to achieve particular benefits in one priority area would differ from the expenditure required to achieve similar benefits in a different priority area. Overall those consulted did not feel that they had adequate experience or expertise to comment further on TasWater's spending priorities.

The Economic Regulator is not surprised at this result, and considers it unlikely that many people in the community would have, or need, a deep understanding of the expenses and challenges TasWater faces.

TasWater reported that most customers and stakeholders had no difficulty in understanding the concept of trade-offs in TasWater's investment and expenditure and that spending more in one area may require a reduction in spending in other areas. Those consulted recognised that TasWater would not be able to address all of its priorities at once.

Most customers and stakeholders agreed that TasWater's current levels of opex and capex are reasonable, though some suggested that capex should be slightly higher. While many customers accepted that TasWater would need to increase its levels of investment and expenditure to adequately address the challenges it faces, most indicated a preference for TasWater to identify and explore possibilities for internal cost savings prior to raising customer prices.

As with the matter of spending priorities, the Economic Regulator does not expect that many members of the community have a strong knowledge of opex and capex matters, and consequently does not view these results as surprising. The Economic Regulator commends TasWater's decision to consult with customers and stakeholders on its investment and expenditure priorities, but suggests that those consulted need to be provided with sufficient background information to allow them to develop an informed opinion. Otherwise, such consultation is of limited value.

2.3.3 Price increases and tariff structures

Those customers and stakeholders involved in the consultations commented on both TasWater's tariff structures, and on what level of price increases they felt it would be reasonable and acceptable for TasWater to introduce.

2.3.3.1 Price increases

TasWater explained to the customers and stakeholders involved in its consultations that the scale of improvements required to meet its compliance obligations and upgrade infrastructure would necessarily result in increases to TasWater's operating costs. TasWater then asked customers and stakeholders for their views on the level and pace of price increases necessary for TasWater to cover the costs of achieving full compliance.

The telephone survey asked TasWater customers whether they felt that the current rate of annual increase for TasWater prices (roughly 5 per cent) was acceptable considering the requirements for TasWater to meet compliance obligations and upgrade its infrastructure. Responses to this question varied, but overall TasWater reported that:

- 41 per cent of customers surveyed favoured the current rate of price increase (5 per cent per annum);
- 23 per cent preferred an annual increase of 2 per cent;
- 16 per cent wanted prices to remain the same (that is, no annual increase); and
- of the remaining respondents, most preferred an annual price increase of between zero and 5 per cent.

The Economic Regulator also notes that TasWater's figures show that only 1 per cent of customers surveyed favoured an annual price decrease, while 5 per cent expressed no preference.

TasWater reported that the feedback it received from business and community peak bodies largely favoured minimal price increases, either to maintain business confidence or to protect vulnerable and disadvantaged members of the community. TasWater notes that it aims to keep water and sewerage bills as affordable as possible, and has committed to reviewing its Financial Hardship Policy during the third regulatory period in consultation with customers, stakeholders and regulators.

2.3.3.2 Fixed and variable costs

Residential customers involved in the consultation process received a breakdown of a typical household water and sewerage bill, explaining that roughly 80 per cent of current bills relates to fixed costs (including infrastructure and service provision) while only 20 per cent relates to variable costs (including the amount of water used). Business customers did not receive this information, as different businesses can differ considerably in their requirements for water and sewerage services and, consequently, in the size and makeup of their bills.

TasWater reported that 42 per cent of residential customers agreed that an 80 per cent fixed costs ratio in the bill was reasonable and appropriate. Only 20 per cent of business customers gave this response.

The Economic Regulator notes that there is a marked difference between the views of residential and business customers, and that TasWater has not offered any insights as to why this disparity of views exists.

2.3.3.3 Sewerage charges - equivalent tenements

TasWater reported that nearly 60 per cent of business customers consulted withsupported TasWater changing from its current equivalent tenement method of calculating sewerage charges to an individual calculation method, such as a volumetric discharge factor. Roughly 33 per cent of business customers supported retaining the existing system.

The Economic Regulator notes TasWater's comment that many customers were unclear what is meant by 'equivalent tenement', and suggests that TasWater make a greater effort to explain its equivalent tenement method in a manner that is accessible and understandable to all customers and stakeholders.

Several major business customers who provided feedback argued that the equivalent tenement method is not valid for calculating the sewerage bills of accommodation businesses, as it does not account for the seasonal occupation of rooms. However, TasWater countered this argument by pointing out that fixed costs make up the majority of sewerage costs and that TasWater has designed its sewerage systems to deal with peak season demand. The equivalent tenement rate charged to accommodation businesses reflects these fixed costs and is consistent with the rate used in other jurisdictions such as New South Wales. TasWater therefore does not propose any changes to the equivalent tenement rate for accommodation businesses during the third regulatory period.

TasWater does, however, note that its proposed Price and Service Plan for the third regulatory period makes certain targeted changes to the existing equivalent tenement method in response to issues raised by representatives of specific business types during the customer and stakeholder consultation process. Generally, though, TasWater intends to retain its current equivalent tenement methodology to avoid the difficulties of changing its billing system and managing customers who are transitioning to target tariffs. Chapter 12 contains further discussion of TasWater's proposed equivalent tenement method.

The Economic Regulator notes that TasWater has committed to review its sewerage charging methodology prior to the fourth regulatory period.

2.3.3.4 Fire services

Participants in the customer and stakeholder consultation process largely agreed that TasWater's current arrangements and charges for the provision of fire services are reasonable and appropriate. TasWater notes that these participants included representatives of organisations who have fire systems installed and pay the relevant fire services charges.

2.3.4 Customer service standards

The majority of participants in the customer and stakeholder consultation process felt that TasWater's current response times for attending to water main breaks and sewage spills are appropriate, even considering the fact that increasing these response times could result in lower bills for customers. TasWater also noted that an even larger majority of participants stated that they would be happy for TasWater to increase the time it takes to answer telephone calls to its customer call centre. TasWater's current target is to answer all calls within 30 seconds, but 29 per cent of participants indicated they

would be satisfied with a target of five minutes, while 25 per cent responded that they would be satisfied with a target of ten minutes or more.

The Economic Regulator notes that, consistent with these findings, TasWater proposes to maintain its service standards at current levels. However, the Economic Regulator also notes that TasWater has not included any changes to current call centre response times in its proposed Price and Service Plan for the third regulatory period. Given that any such changes would likely help to reduce the escalation rate of customer bills, the Economic Regulator supports TasWater's intention to investigate possible changes to its call centre response times, in consultation with customers and stakeholders, prior to the fourth regulatory period.

2.3.5 Serviced land

TasWater reported that 59 per cent of the phone survey participants agreed that TasWater should continue its current practices regarding serviced land charges. The Economic Regulator notes that 15 per cent of respondents, although agreeing that TasWater should continue to collect serviced land charges, indicated that they were not happy with the current situation. Further to this, 36 per cent of business customers surveyed indicated a preference for the removal of serviced land charges and for TasWater to increase its other charges to compensate for any resulting loss of revenue.

The Economic Regulator also notes that TasWater presented the question in its phone survey relating to serviced land charges in terms of the cost of change to customers, rather than in terms of the fairness (or otherwise) of its current serviced land arrangements. While this would not necessarily have influenced participants' broader opinions on this issue, the Economic Regulator considers that responses may have been different had the question been presented differently.

2.3.6 Policies for new development

Participants in TasWater's focus groups, and representatives from TasWater's major business customers and peak bodies acting on behalf of the business and community sectors, provided a variety of views on TasWater's current developer charges practices. Suggestions ranged from having all development costs met by developers, to spreading development costs across all TasWater customers on the basis that this would boost economic growth in Tasmania. TasWater reported that its discussions did not reveal any consistent or uniform views among these participants.

However, phone survey participants revealed a majority preference for the sharing of developer costs across all TasWater customers, with this preference being higher among business customers (71 per cent) than residential customers (60 per cent). The Economic Regulator notes that the phone survey question relating to developer charges apparently focused only on headworks charges, and did not consider works external or works internal charges. As such, the question was effectively asking whether phone survey participants supported TasWater maintaining its existing developer charges practices with regard to headworks charges.

2.3.7 Trade waste policies and practices

TasWater reported that 84 per cent of phone survey participants supported its current trade waste arrangements, but noted that some of its major customers who produce large volumes of trade waste have expressed dissatisfaction at the level of support TasWater provides when establishing unregulated trade waste contracts. TasWater suggests that this may be due in part to confusion around its transition to full cost recovery for trade waste customers, and noted that one of the goals of its proposed Price and Service Plan for the third regulatory period is to provide clear and concise information and policies for its trade waste customers.

The Economic Regulator acknowledges this strong support for TasWater's current 'polluter pays' approach to trade waste, and notes an interesting dichotomy between the phone survey responses relating to trade waste and the phone survey responses relating to developer charges (discussed in Section 2.3.6). Phone survey participants were apparently quite comfortable with TasWater's practice of sharing headworks charges costs across its entire customer base, but expressed the opposite view about trade waste costs.

2.3.8 Incorporation of feedback into TasWater's proposed Price and Service Plan

In its proposed Price and Service Plan for the third regulatory period, TasWater included a table summarising the key issues it had consulted on, the feedback it had received from customers and stakeholders, and how it had incorporated that feedback into the proposed Price and Service Plan. The Economic Regulator notes that TasWater has prioritised its capex projects for the third regulatory period based on the customer and stakeholder feedback (discussed in Section 2.3.1), with a focus on improving compliance while maintaining service standards.

TasWater acknowledges that affordability is a key issue for many of its customers, imposing a limit of 4.6 per cent on its proposed price increases and working within this framework to improve its compliance outcomes while reflecting customer priorities. As discussed in Section 2.3.3, TasWater has committed to reviewing its Financial Hardship Policy during the third regulatory period in response to the feedback it received from customers and stakeholders. The Economic Regulator also notes TasWater's intention to maintain its current ratio of fixed to variable costs and commitment to reviewing its equivalent tenement methodology prior to the start of the fourth regulatory period.

Given TasWater's focus on improving compliance outcomes during the third regulatory period and the feedback it received from customers and stakeholders on matters relating to price and service trade-offs, its proposed Price and Service Plan maintains current service levels rather than increasing them. The Economic Regulator notes that this is consistent with customer expectations and will help TasWater to reduce upward pressure on bills. TasWater has also flagged its intention to consider changing its call centre response time standard ahead of the fourth regulatory period, based on the customer and stakeholder feedback discussed in Section 2.3.4, and has initiated a Productivity Improvement Program to identify and implement productivity and business process improvements. The outcomes of this program should further enable TasWater to reduce potential increases in customer bills.

Based on the feedback it received during customer and stakeholder consultation on several of its current policies, as discussed in Sections 2.3.5, 2.3.6 and 2.3.7, TasWater's proposed Price and Service Plan for the third regulatory period does not include any significant changes to these policies. However, the Economic Regulator notes TasWater's commitment to improving the clarity of these policies and working closely with its major trade waste customers during the transition to full cost recovery.

2.4 Economic Regulator's draft conclusions

The Economic Regulator's view is that TasWater has conducted a thorough customer and stakeholder consultation process through a good mix of forums. TasWater has made obvious efforts to involve and obtain feedback from customers and stakeholders across a range of demographics and regions. While the Economic Regulator expresses some concern regarding the structure and wording of certain questions that TasWater used in its phone survey, the Economic Regulator judges that the responses to these questions have resulted in TasWater making reasonable assumptions.

Overall, the Economic Regulator feels that TasWater has appropriately reflected the outcomes from its customer and stakeholder consultation process in its proposed Price and Service Plan. The Economic Regulator therefore considers that TasWater has fulfilled the customer and stakeholder consultation requirements outlined in the Economic Regulator's PSP Guideline.

The Economic Regulator intends to conclude that TasWater has fulfilled the customer and stakeholder consultation requirements outlined in the Economic Regulator's Water and Sewerage Price and Service Plan Guideline.

3 REGULATORY COMPLIANCE IMPROVEMENT

This chapter outlines the Economic Regulator's understanding of the actions that are being taken by Tasmania's water and sewerage industry regulators and TasWater, to ensure that TasWater continues to improve the extent to which it complies with its regulatory obligations during the third regulatory period.

It outlines the industry regulators' expectations of TasWater, their responses to the proposed Price and Service Plan and arrangements they have in place to manage compliance. It includes areas that the industry regulators have identified as necessary to improve progress towards achieving full regulatory compliance.

The chapter also includes the Economic Regulator's draft proposals to improve TasWater's regulatory compliance. Chapter 6 of this Draft Report is also relevant to these draft proposals, as it discusses TasWater's capex program which has recently shifted focus from growth to compliance.

3.1 Regulatory compliance

TasWater is currently facing a number of challenges in relation to regulatory compliance, particularly in respect of wastewater management. This was acknowledged during the first and second price determination investigations and is due to the legacy issues that were inherited by the previous regulated entities, and now TasWater. Full compliance may not be achieved for many years.

Effective long-term planning by TasWater is essential to ensuring that it will ultimately achieve full regulatory compliance and operational efficiency. Effective long-term planning provides strategic direction and a basis for assessing whether capex is prudent and efficient. While improvements in regulatory compliance are usually achieved through capex, they may also be achieved through improved efficiencies in opex.

TasWater's proposed capex and opex for the third regulatory period must, therefore, reflect its long-term plan and the outcomes agreed with the industry regulators responsible for enforcing its compliance. Management plans and programs are put in place to ensure that the industry regulators' expectations are met.

Tasmania's water and sewerage industry regulators are the:

- Director of Public Health - responsible for regulating water quality and fluoridation;
- Director, Environment Protection Authority (EPA) - responsible for regulating wastewater treatment plants; and
- Department of Primary Industries, Parks, Water and Environment (DPIPWE) - responsible for water licence allocations and dam safety.

A more detailed description of the roles and responsibilities of each of the industry regulators is included in Chapter 1 of this Draft Report.

3.2 Consultation undertaken by the Economic Regulator

In its PSP Guideline, the Economic Regulator undertook to consult with industry regulators to ensure that the compliance improvement outcomes agreed with TasWater are reflected in its proposed Price and Service Plan. The Economic Regulator may recommend changes to the proposed Price and Service Plan to ensure that the statutory responsibilities of industry regulators, as well as their compliance improvement expectations, are appropriately addressed.

The Economic Regulator also expected that TasWater would consult with industry regulators during the preparation of its proposed Price and Service Plan. The Guideline also required TasWater to provide information about regulatory compliance, including the expectations of each regulator for the third regulatory period, agreed compliance improvement outcomes and target dates, and copies of management plans.

Since December 2016, the Economic Regulator has held quarterly meetings with industry regulators. In September 2017, a workshop was held with Arup, the Economic Regulator's independent consultant, so that industry regulators could discuss the preliminary findings from Arup's review of TasWater's capex and opex. The workshop included a discussion on TasWater's LTSP and its regional strategies for water and wastewater networks. The LTSP aims to outline the investment necessary to meet the regulatory and compliance standards, as well as the arrangements required to achieve the standards. It is available on TasWater's website.

3.3 Responses from the industry regulators

This section provides the Economic Regulator's understanding of how each of the industry regulators has responded to TasWater's proposed Price and Service Plan. It describes whether, and to what extent, TasWater's proposals meet their expectations for continued improvement, the arrangements they have in place with TasWater to ensure compliance, as well as opportunities for expediting progress towards achieving full compliance and operational efficiency.

3.3.1 Director of Public Health

3.3.1.1 Response to TasWater's proposals

The Director of Public Health supported the proposals contained in TasWater's proposed Price and Service Plan. In particular, the Director noted the following.

- TasWater has achieved a progressive reduction in public water supplies subject to boil water alerts or public health alerts, and a corresponding reduction in the number and proportion of consumers of public water supplies who receive water that is non-compliant with microbiological health guidelines. Less than 1 per cent of the population receives a microbiologically non-compliant drinking water supply from TasWater.

- In anticipation of all non-compliant small water supplies being addressed by August 2018, TasWater intends shifting towards a long-term focus of activity and investment that addresses the risks identified through assessments of each catchment and drinking water supply system.

- The risk assessment approach required given the priorities for the third regulatory period will, to some extent, open possibilities for regional improvements, integration and efficiencies for TasWater's drinking water supplies, including many to small and relatively remote populations.

- TasWater has given an undertaking to progressively address various shortcomings of the sewerage infrastructure, which, in some instances, will serve to reduce public health risks associated with recreational water and exposure to aquaculture.

TasWater consulted with the Department of Health and Human Services (DHHS) on its proposed Price and Service Plan in early 2017 and DHHS' priorities for regulatory compliance improvement have been incorporated.

In March 2017, the Director of Public Health provided TasWater with a list of six priorities to guide its activities and investments, to address both current and long-term risks to human health associated with the shortcomings of drinking water supply systems. The intention was to provide guidance to TasWater for its capital works planning and, in turn, capex for inclusion in its proposed Price and Service Plan. The list was developed following extensive discussions with TasWater. The six priorities are:

1. Remove boil water alerts and public health alerts in drinking water systems.
2. Identify and implement critical control points in accordance with the *Australian Drinking Water Guidelines 2011* (updated November 2016) (ADWG) framework.
3. Increase knowledge of surface waters through catchment risk assessments, and improve source protection through capital investments designed to reduce or eliminate public health risks.
4. Identify opportunities to improve disinfection management and maintain suitable chlorine residuals in reticulation networks.
5. Improve fluoridation performance through compliance with the *Tasmanian Fluoridation Code of Practice*.
6. Identify and implement strategies to remove and reduce disinfection by-product formation to levels below those specified in the ADWG.

The Director of Public Health has advised the Economic Regulator that its expectations for regulatory compliance improvement have been met by TasWater's proposed Price and Service Plan.

3.3.1.2 Monitoring compliance

DHHS' arrangements with TasWater are provided for under the *Public Health Act 1997*, the *Fluoridation Act 1968* and associated regulations. The Economic Regulator understands that the Tasmanian code of practice relating to the fluoridation of public water supplies is currently being updated and is due for completion by 30 June 2018.

DHHS administers the *Tasmanian Drinking Water Quality Guidelines 2015* (TDWQG), which require TasWater to develop and implement, update annually, and have externally audited every two years, a Drinking Water Quality Management Plan (DWQMP). Its purpose is to highlight the risks and issues associated with the shortcomings of drinking water supply systems and to prioritise improvement projects and programs. The current DWQMP applies for 2015-18. The Economic Regulator has been advised that the first audit of the DWQMP is due to be completed in early December 2017. The Economic Regulator has also been advised that the current DWQMP is expected to continue, with revisions as necessary, during the third regulatory period and for future regulatory periods.

DHHS has advised that the TDWQG closely aligns with the best practice management principles outlined in the ADWG. The Economic Regulator understands that, where necessary, DHHS and TasWater continue to liaise on reviews and updates of both the ADWG and TDWQG.

The Economic Regulator also understands that TasWater's compliance is monitored and enforced under the DWQMP which also contains the requirement for risk-based monitoring, reporting and management activities to be carried out. DHHS actively engages with TasWater about notifications of potentially non-compliant water, monitors its operational response and results, and responds as necessary. Results are provided to the Director of Public Health annually by TasWater, as required under the TDWQG. Information must also include, amongst other things, a summary of capital investment in relation to the drinking water supply system and a summary of planned capital investment in relation to the drinking water supply system for the next reporting period.

The Economic Regulator is aware that TasWater was preparing a drinking water quality strategy relating to the third regulatory period. However, TasWater has confirmed that, given the commitments contained in its proposed Price and Service Plan and LTSP, and the pending audit and update of the DWQMP, this strategy will not be progressed further at this stage.

3.3.2 Director, Environment Protection Authority

3.3.2.1 Response to TasWater's proposals

The Director, EPA has advised the Economic Regulator that the EPA broadly supported the proposals contained in TasWater's proposed Price and Service Plan.

The EPA and TasWater have entered into a *Memorandum of Understanding on Public Wastewater Management* (November 2016) (MOU). The MOU is a high level document that aims to prioritise projects, largely relating to Level 2 WWTPs, to deliver the greatest environmental performance and compliance improvement over a three year period, by focussing on the highest volume plants and key environmental risks. It is available on the EPA's website. The MOU recognises that full compliance is not possible within the term of the MOU, or the third regulatory period.

The Economic Regulator has been advised that the EPA expects that TasWater will improve compliance with its regulatory obligations and manage key environmental risks over the third regulatory period, given that the MOU focusses upon a specific set of priority Level 2 WWTPs. For the term of the MoU, the EPA will regulate non-priority Level 2 WWTPs to ensure environmental performance does not drop below current levels to allow TasWater to focus on the following:

- "Big 13" - those WWTPs that account for 70 per cent of all treated wastewater from TasWater's network;
- "Top 20" - the key, localised environmental risks associated with Level 2 WWTPs;
- trade waste - enhanced state-wide control of trade waste, tankered waste and leachate inputs to TasWater's network; and
- other state-wide projects that seek to optimise wastewater infrastructure function through better control of inputs, or divert outputs to reuse rather than direct discharge to the environment.

The EPA indicated that the capex projects included in TasWater's proposed Price and Service Plan and LTSP reflect the priorities identified in the MOU. Under the MOU, TasWater has committed to completing projects at 33 wastewater treatment plants, many of which do not require significant capex. The EPA is comfortable that the contents of the proposed Price and Service Plan, together with the more detailed commitments provided in Appendix 1 of the LTSP, provide TasWater with sufficient flexibility to pursue and achieve the required gains in environmental performance.

The EPA noted that the current MOU will expire during the third regulatory period and confirmed that discussions have commenced with TasWater to extend the MOU to align it with the timing of the third regulatory period.

The EPA confirmed that TasWater's existing Wastewater Management Plan 2015-18 has largely been set aside for the early stages of the MOU, although it aligns with many of the priorities in the MOU. The EPA also confirmed that TasWater has proposed the preparation of an updated wastewater management plan for 2018-21. The Economic Regulator understands that this plan will align with the proposed Price and Service Plan and the MOU, and will provide additional detail on projects, estimated costs and timeframes for completion. TasWater confirmed its intention to provide an updated version to the EPA by December 2017.

The Economic Regulator understands that TasWater was also preparing a wastewater strategy to relate to the third regulatory period. However, TasWater has confirmed that this will not be progressed further given the commitments in its proposed Price and Service Plan, LTSP and pending updated wastewater management plan.

The EPA is also supportive of the development of a regional/scheme-based approach to the management of assets within TasWater's state-wide planning framework. The EPA has also noted the positive direction provided by TasWater's LTSP and indicated that incorporating regional/scheme-based strategies would assist decision making in relation to asset management for the long-term.

However, the EPA continues to have concerns about delays in the completion of some projects by TasWater, particularly during its internal project approval phase. The EPA is considering how it may be able to alter its assessment and regulatory processes, to incentivise TasWater to reduce or better meet its project timeframes thereby more efficiently delivering improved environmental outcomes.

The Economic Regulator understands that the EPA was consulted about TasWater's proposals, primarily through the development of its LTSP.

The Director, EPA has advised the Economic Regulator that his expectations for regulatory compliance improvement have been broadly met by TasWater's proposed Price and Service Plan.

3.3.2.2 Monitoring compliance

Under the EMPCA, WWTPs cannot operate without authorisation, provided in the form of permits or Environment Protection Notices, both of which are subject to conditions. The EPA regulates Level 2 WWTPs.

The EPA advised that it has a Compliance and Enforcement Plan for the period of the MOU and also applies all regulatory enforcement tools available to it under EMPCA, as necessary. This represents a strengthening of the EPA's enforcement approach and reflects that its focus is on the priorities identified in the MOU. To allow TasWater to complete these priority projects, the EPA is regulating non-priority wastewater treatment plants to a standard that specifies no drop in current performance. The EPA expects that, under the MOU, TasWater will improve the level of state-wide compliance with its regulatory obligations with six monthly progress reviews conducted against the compliance improvement and project milestones.

The EPA suggested that more frequent and transparent reporting of sewage compliance information would be beneficial given that other key reports, such as the EPA's annual reports and the Economic Regulator's water and sewerage state of the industry reports, are published annually. The EPA is currently negotiating with TasWater to improve the frequency and timeframes for TasWater's compliance reporting to the EPA. The EPA is hopeful that this will be resolved during the third regulatory period, or prior to it commencing.

3.3.3 Delegate for Dam Safety Regulation

3.3.3.1 Response to TasWater's proposals

The Delegate for Dam Safety Regulation supported the proposals included in TasWater's proposed Price and Service Plan. The Delegate for Dam Safety Regulation also noted that TasWater's proposed Price and Service Plan is consistent with TasWater's Dam Safety Management Plan Annual Progress Report 2016/17 which was recently approved by the Delegate for Dam Safety Regulation.

However, the Delegate for Dam Safety Regulation indicated that TasWater does not have a state-wide strategic plan for town schemes, including water supply dams. This has delayed decisions in relation to, for example, whether dams in interim risk reduction measures that have been accepted by the Delegate for Dam Safety Regulation, should be decommissioned, retained or upgraded. The Economic Regulator understands that DPIPWE intends working with TasWater during the third regulatory period to finalise a state-wide strategic plan for town schemes in the short-term, to ensure that these delays are not extended.

The Economic Regulator also understands that DPIPWE is working with TasWater to improve its reporting processes.

The Economic Regulator is aware that TasWater is preparing a dam safety improvement program for the third regulatory period. The Delegate for Dam Safety Regulation has indicated that its approval of this document is not necessary from a regulatory compliance perspective, as TasWater's dam safety obligations are being met through the existing annual reporting requirements.

The Delegate for Dam Safety Regulation has advised the Economic Regulator that its expectations for regulatory compliance improvement have been met by TasWater's proposed Price and Service Plan.

3.3.3.2 Monitoring compliance

The Delegate for Dam Safety Regulation monitors TasWater's performance against its dam safety obligations through annual progress reports, which are required by agreement with TasWater. Annual progress reports provide a business-wide, risk-based framework for the management and mitigation of dam safety risks, to ensure they do not pose an unacceptable level of risk to the public.

The *Water Management Act 1999* and the *Water Management (Safety of Dams) Regulations 2015* provide the key legislative requirements while TasWater applies the Australian National Committee on Large Dams' *Guidelines on Risk Assessment 2003* and *Guidelines on Dam Safety Management 2003* to manage its risk assessment process.

The Delegate for Dam Safety Regulation advised that it is satisfied with its arrangement with TasWater and noted that TasWater has reduced the risk (tolerability) across the dams it is responsible for through decommissioning and upgrades. It is satisfied that TasWater has programs in place to reduce the number of dams above the level of tolerability.

The Economic Regulator noted that separate dam safety management plans were prepared previously for the northern, north western and southern regions, and that during the second regulatory period, in consultation with DPIPWE, these have been consolidated into one plan.

The Economic Regulator understands that TasWater is in its second year of a five year task of registering all dams (as defined by the Water Management Act) it is responsible for, which includes water and wastewater storages, lagoons and weirs. This number has increased by more than half and is currently in excess of 300. This process includes a consequence category assessment of each dam to quantify individual risk and identify the appropriate business response.

3.4 Arup's Draft Report

Arup's Draft Report acknowledged TasWater's recent shift to a long-term capital planning approach, noting that this will provide a robust framework for future planning. Arup also highlighted the importance of combining this with regional planning, as a regional perspective will allow TasWater to make objective assessments about investing in its assets to avoid the risk of inefficient outcomes such as redundant or stranded assets.

Arup also highlighted the delays and overspending that have occurred during the second regulatory period with a number of major projects (for example, the Tolosa Dam decommissioning and the Kingborough Sewerage Strategy - Treatment and Network). Chapter 6 of this Draft Report discusses TasWater's capex for the second and third regulatory periods together with Arup's findings from its review of that expenditure.

3.5 Economic Regulator's draft conclusions

3.5.1 Long-term planning

Based on advice from the industry regulators and Arup, the Economic Regulator has concluded that TasWater has made considerable effort to improve its strategic planning framework for regulatory compliance improvement. TasWater's LTSP appears to be generally in line with the industry regulators' expectations for regulatory compliance improvement and the arrangements they have in place with TasWater to work towards achieving full compliance.

The industry regulators also acknowledged the progress that has already been made by TasWater towards improved compliance with its regulatory obligations. In relation to drinking water quality, the Director of Public Health considered TasWater's progress to be noteworthy. Quality issues in the remaining non-compliant regional town supplies are planned to be addressed by August 2018, at the commencement of the third regulatory period. The Economic Regulator understands that this will then allow TasWater to shift its activity and investment to addressing the risks identified through assessments of each catchment and drinking water supply system, potentially leading to further improvements, integration and efficiencies.

The EPA noted that the MOU was developed in recognition that step-change improvement in environmental performance and compliance at Level 2 wastewater treatment plants was required. While it is premature to comment on progress, there are some promising early signs of improvement. For example, state-wide flow weighted compliance has improved from around 42 per cent at the time the MOU was signed. Using the TasWater linked limits calculation method, the rolling year to date average (September 2016 to September 2017) is currently 51 per cent, with a peak for May 2017 of 57 per cent.

In addition, improvement site assessments have been completed for 17 wastewater treatment plants out of the "Big 13" and "Top 20". These site assessments are being followed up with improvement action plans (for 11 WWTPs) and operational control points (for three WWTPs). The assessments have delivered on-the-ground improvements, such as the desludging and renewal of diffusers in the aeration chambers at the Rosny wastewater treatment plant, which was completed in September 2017.

Further, the Delegate for Dam Safety Regulation noted that TasWater has reduced the risk (tolerability) across its dam portfolio through decommissioning and upgrades, and is satisfied that programs are in place to reduce the number of dams above the level of tolerability.

However, there were some concerns about TasWater's ability to deliver the agreed capex as scheduled, so that the agreed compliance improvement outcomes can be achieved. For example, it was recognised that the LTSP provides direction, but in some areas it lacks sufficient focus on regional/scheme-based

asset management to assist long-term decision making. As a result, as pointed out by Arup, TasWater might be incurring capex now and during the third regulatory period, on assets that, ultimately, may no longer be required. The challenges appear to be more complicated in relation to wastewater management, where a regional/scheme-based asset management approach was supported by Arup and the EPA.

The Economic Regulator recognises that TasWater's strategic planning framework has been notably improved by its LTSP. It also acknowledges that TasWater has taken, and continues to take, opportunities to rationalise assets. It is understood that opportunities are identified through its overarching Asset Management System which is supported by strategies and plans, and that projects are prioritised through its LTSP Optimisation Model.

The Economic Regulator considers however, that long-term asset rationalisation strategies to achieve full compliance and operational efficiencies are still lacking. To be able to effectively assess efficiency, the Economic Regulator intends to require TasWater to justify its proposed capex for the fourth regulatory period, in the context of a long-term plan to achieve full regulatory compliance and operational efficiencies. This would build upon TasWater's existing strategic planning framework and would take account of Arup's findings and the approach supported by the EPA.

The Economic Regulator notes that in a recent performance audit to assess whether the reform of Tasmania's water and sewerage industry had delivered the intended outcomes, the TAO found that:

> Although TasWater has begun identifying rationalisation opportunities for water and sewerage facilities, no overarching rationalisation strategy is in place.[2]

and

> A structured approach to asset rationalisation is not in place as evidenced by the absence of a rationalisation strategy.[3]

On this matter the TAO recommended that TasWater finalises its rationalisation strategy to support rationalisation projects."[4]

The Economic Regulator acknowledges that achieving full compliance and efficient operations will take many years, but is firmly of the view that long-term asset rationalisation strategies are essential to achieving this. Once these strategies are prepared, the Economic Regulator suggests that TasWater should re-run its LTSP Optimisation Model to take account of the new priorities and long-term objectives set out in the relevant strategies.

3.5.2 Proposed Price and Service Plan

The industry regulators were supportive of the proposals contained in the proposed Price and Service Plan. The Economic Regulator was advised that it meets the Director of Public Health and the Delegate for Dam Safety Regulation's expectations for regulatory compliance improvement for the third regulatory period and broadly meets the Director, EPA's expectations. There appears to have been a reasonable level of consultation by TasWater with industry regulators regarding the proposed Price and Service Plan.

Noting the Economic Regulator's Guideline, TasWater provided the information required in relation to regulatory compliance improvement in its proposed Price and Service Plan. Copies of management

[2] Tasmanian Audit Office, *Water and sewerage in Tasmania*: assessing the outcomes of industry reform, November 2017, page 68.

[3] Ibid, page 69.

[4] Ibid, page 69.

plans and strategies were not provided, but were subsequently made available to the Economic Regulator.

Each industry regulator has ensured that these plans or agreements are in place to reflect their respective compliance improvement expectations and that they will be updated and replaced when necessary, either before or during the third regulatory period. The Economic Regulator understands that the key documents are the:

- Drinking Water Quality Management Plan 2015-18 (which will be audited during late November - early December 2017, reviewed as necessary and extended);
- Memorandum of Understanding on Public Wastewater Management (which expires at the end of November 2019 and is likely to be extended to align it with the end of the third regulatory period);
- revised wastewater management plan to align with the third regulatory period (due with the EPA in December 2017); and
- Dam Safety Management Plan Annual Progress Report 2016/17.

The Economic Regulator acknowledges the important direction that these documents provide for TasWater. It is also acknowledged that the finalisation of these documents may result in changes to the detail of TasWater's capex program for the third regulatory period.

It is also understood that the industry regulators considered that existing compliance and enforcement programs and tools are sufficient to support them incentivising TasWater's continued progress towards improved compliance outcomes. The more frequent public reporting of sewage related performance data was identified as a way to further improve transparency and accountability.

3.6 Economic Regulator's draft proposals

Having considered the views of the industry regulators and the advice received from Arup and TasWater, the Economic Regulator intends to require TasWater to carry out the following actions during the third regulatory period. These draft proposals would build upon the significant progress that TasWater has made with its strategic planning practices and would allow the Economic Regulator to assess whether TasWater's proposed capex for the fourth regulatory period is prudent and efficient.

The Economic Regulator intends to require TasWater to further justify its proposed capex for the fourth regulatory period in the context of a long-term plan to achieve full regulatory compliance and operational efficiencies.

The Economic Regulator intends to amend the Tasmanian Water and Sewerage Industry Performance and Information Reporting Guideline (November 2016) to require TasWater to:

- *report annually against the key customer outcomes identified in its proposed Price and Service Plan for the third regulatory period; and*
- *provide more detailed information on the status of scheduled and completed projects.*

The Economic Regulator intends to require TasWater to finalise, in consultation with relevant industry regulators, and provide it with its updated drinking water quality management plan, updated wastewater management plan and its new strategic plan for town dam schemes, by no later than 30 June 2018.

4 CUSTOMER SERVICE STANDARDS, CUSTOMER CONTRACT AND POLICIES

4.1 Regulation of customer service standards

The Economic Regulator is responsible for regulating standards and conditions of supply of regulated water and sewerage services. This does not, however, extend to water quality standards, which are the responsibility of the Director of Public Health, or waste water standards which are the responsibility of the EPA.

Water and sewerage service standards are regulated through the specification of minimum service standard targets within the Customer Service Code and the determination of transitional service standards as part of the Price Determination processes.

The Economic Regulator's current approach to regulating water and sewerage services may be summarised as:

- establishing a Water and Sewerage Industry Customer Service Code;
- establishing minimum service standard targets within the Customer Service Code;
- requiring regulated water and sewerage entities to develop customer charters;
- requiring regulated water and sewerage entities to develop transitional customer service standard proposals as part of Price and Service Plans to move towards the minimum service standard targets within the Customer Service Code; and
- establishing a performance reporting framework that, amongst other things, monitors performance against approved transitional service standards and minimum service standard targets.

4.2 Minimum customer service standards - background

Minimum service standards are usually developed following consultation with customers on current levels of service and price implications of alternative levels of service provision. However, during the early stages of the water and sewerage industry reform process, this information was largely unknown. That is, the absence of customer service regulation prior to the commencement of reforms for the water and sewerage sector resulted in a general lack of data being collected in relation to customer service. Therefore, the Economic Regulator chose to apply an alternative approach within the Customer Service Code when it was introduced in July 2010.

The Customer Service Code was initially developed to include a number of minimum service standards that the then regional water and sewerage entities used as targets for transitioning levels of service provision over time. The Economic Regulator determined these standards using a benchmarking approach based on existing service standards within Victoria. The Customer Service Code then stipulated that a regulated entity is to achieve the minimum service standards within the second pricing period.

Transitional service standards were subsequently proposed by each of the three regional water and sewerage entities and approved as part of the first Price Determination (effective from 1 July 2012). Progress of the entities against the agreed performance transition paths was then monitored and reported upon by the Economic Regulator as part of the performance monitoring and reporting framework.

The Customer Service Code provided that the Economic Regulator would undertake a review of the minimum service standards by 30 June 2013 to take into account cost and service level data which came to light during the first regulatory period.

Accordingly, a review was undertaken with the objective of introducing differential service standards in the second regulatory period to reflect the different costs of delivering the regulated services to different geographical areas.

However, following the amalgamation, TasWater was unable to propose service standards, nor outline any associated transition path, on a differential basis citing issues with data availability and concerns over inadvertent operational inefficiencies which may arise through applying differential service standards. Rather, TasWater proposed state-wide minimum service standards as well as annual transition targets to move to the service standard targets during the second regulatory period.

Following continued liaison between TasWater and the Economic Regulator, it was resolved that 'actual' minimum standards would be set for some of the service standard indicators for the second regulatory period. That is, the performance of TasWater against the indicators in question would (from 1 July 2015) no longer be averaged out across TasWater's system state-wide. Rather, the service standard proposed for those indicators is now the absolute minimum standard which TasWater has to meet, in all instances, and in all of its interactions with customers state-wide, with respect to those indicators.

'Actual' minimum standards were set with respect to 'response time' and 'duration related' indicators and service standards relevant to 'water supply interruptions' and 'sewer breaks and chokes'.

During the 2015 Water and Sewerage Price Determination Investigation it was ultimately determined that, in accordance with the customer service standards transition path, response time and duration related indicators would only be achieved 'X' per cent of the time during the second regulatory period (specifically 80 or 90 per cent of the time).

As part of its 2015 investigation the Economic Regulator also provided an undertaking that it would continue to work with TasWater towards the development of more relevant and representative customer service standards for the third regulatory period.

To this end, a Working Group was established, with representation from the Office of the Tasmanian Economic Regulator (OTTER) and TasWater, to develop a framework for minimum customer service standards. The Working Group met monthly, commencing June 2016 and concluding in November 2016.

A proposed minimum service standards framework was agreed to by the Working Group. The framework only set out the proposed methods for measuring performance, rather than the actual value of each minimum service standard. It was resolved that the agreed framework would feed into the development of TasWater's proposed Price and Service Plan for the third regulatory period, which was to include actual proposed minimum service standard values.

4.3 PSP Guideline requirements for service standards arrangements

The Economic Regulator published its *Tasmanian Water and Sewerage Industry 2018 Price Determination Investigation Price and Service Plan Guideline* (the PSP Guideline) in June 2016 to assist TasWater in preparing its proposed Price and Service Plan.

The PSP Guideline provides high level direction with respect to TasWater's development of appropriate minimum service standard arrangements to apply from 1 July 2018. This included service standard obligations provided for in the Customer Service Code.

In accordance with the provisions of the PSP Guideline, TasWater was required to specify, in its proposed Price and Service Plan, the actual minimum service standards and targets that will apply in the third regulatory period, including any transitional performance levels to achieve identified performance targets. The proposed standards were to align with the agreed service standard framework developed by the TasWater/OTTER Working Group, unless TasWater was able to justify in its proposed Price and Service Plan why it had departed from this agreed framework.

TasWater was to also demonstrate that customers had been consulted on their service expectations and that their views had been taken into account. Furthermore, that customer service standards and conditions should reflect customers' priorities and expectations in relation to service delivery and should underpin TasWater's expenditure plans.

4.4 Customer Service Standards for the third regulatory period

4.4.1 Working Group outcomes for consideration

During deliberations of the Working Group, OTTER representatives were advised of TasWater's current inability to collect data and report on repeat service interruptions.

The two minimum service standards to which this related to were:

- number of customers receiving more than 5 unplanned water supply interruptions in a financial year (number); and
- customer receiving more than 3 sewerage service interruptions per year.

Under the Economic Regulator's *Water and Sewerage Industry Performance and Information Reporting Guideline*, TasWater has had an obligation to report on these aforementioned standards (as part of its annual performance report every year) since the entity commenced operations on 1 July 2013. In this way, not reporting annually on the aforementioned repeat service interruption measures had resulted in TasWater being non-compliant with the Performance and Information Reporting Guideline and TasWater's licence conditions (which states TasWater must comply with all applicable guidelines).

It was noted that significant investment would be required by TasWater to record and report repeat interruptions for both water and sewerage services going forward. The Working Group subsequently resolved that a pilot would be required to understand and confirm the full implementation costs and associated benefits of the investment. TasWater provided formal advice to the Economic Regulator that it would pilot measuring of repeat service interruptions in the third regulatory period.

OTTER representatives expressed to TasWater the Economic Regulator's interest in the outcomes of the pilot, noting that should it show merit in measuring repeat interruptions of this nature there would be an expectation that TasWater have such measures included in its Price and Service Plan for the fourth regulatory period. Alternatively, if the pilot demonstrates very few repeated service interruptions, then the value of recording and reporting the data would be reconsidered.

In light of the pilot plans, and Economic Regulator's assessment of TasWater's Performance and Information Reporting Guideline breach against the relevant evaluation criteria of outlined in the Economic Regulator's *Compliance Enforcement Policy*, the Economic Regulator agreed not to pursue any formal compliance enforcement action against TasWater at that time. TasWater was, however, advised that the decision of the Economic Regulator in that regard was conditional on TasWater fulfilling its pilot obligations as assured.

Upon consideration of the TasWater's proposed Price and Service Plan submission, the Economic Regulator is satisfied that TasWater has appropriately documented its pilot plans for the third regulatory period. TasWater has noted the significant investment required for the entity to record and report repeat interruptions for both water and sewerage services, and its proposal for a pilot to understand and confirm the full implementation costs and associated benefits of the investment to collect data and report on these metrics.

TasWater has provided assurance that should the pilot show merit in measuring repeat interruptions of this nature, it will engage with customers on introducing these standards and appropriate targets in the fourth regulatory period.

4.4.2 TasWater's engagement with customers in its development of service standards

Service standards and price and service trade-offs formed a key part of TasWater's customer engagement program. TasWater asked customers and stakeholders about:

- their views on the relative priority of achieving compliance standards, maintaining networks to ensure reliable services and having affordable bills;
- what a reasonable annual price increase would be in the third regulatory period;
- whether TasWater's response times to attend bursts and leaks, restore water supply interruptions, attend sewage spills, contain sewage spills or answer calls to TasWater's contact centre should be changed; and
- whether or not TasWater should introduce different service standards in urban and regional areas of Tasmania.

A summary of feedback provided by customers during focus groups, in depth interviews, telephone surveys and submissions to TasWater's Consultation Issues Paper on customer service standards is provided below:

- The majority of customers agreed that TasWater's highest priorities should be to improve compliance outcomes in the third regulatory period (provide safe drinking water, ensure dam safety and meet environmental standards).
- While 41 per cent of customers supported annual price increases of 5 per cent in the third regulatory period (compared to 16 per cent of customers in the second regulatory period), it is clear that customers continued to be conscious of price. Almost no customers wanted annual price increases greater than 5 per cent in the third regulatory period.
- In general, customers preferred targets to remain the same for service standards where TasWater have the greatest opportunity to make savings by relaxing them (including response times for bursts/leaks and for sewage spills).
- The average respondent in TasWater's telephone survey was prepared to wait about three minutes for their call to TasWater's contact centre to be answered.
- The majority of customers did not express a desire to introduce differential service standards.

4.4.3 Proposed service standards for the third regulatory period

Given the large investment required to improve water quality, dam safety and environmental outcomes (the priority of TasWater's customers), TasWater proposed not to put further upward pressure on expenditure and prices by improving service standards in the third regulatory period.

Instead, TasWater's proposal is to maintain current targets for most service standards and to focus on meeting, rather than exceeding, these targets to avoid unnecessary expenditure.

To maintain service reliability in a cost-effective way, TasWater noted it would make use of its improving data, information systems and processes to better allocate asset management investment and operational resources in the third regulatory period. TasWater maintained that this would help to offset expenditure that may otherwise have been required in TasWater's networks to meet service standards while TasWater focuses on achieving compliance outcomes as a first priority.

One area where TasWater customers indicated possible interest in a reduction in service standards was with respect to contact centre response time. TasWater's current target (for the second regulatory period) is to answer 85 per cent of calls within 30 seconds. Respondents to TasWater's telephone survey indicated that they were prepared to wait about three minutes on average for their call to TasWater's contact centre to be answered. Nonetheless, TasWater has indicated its intention to retain its current target of 85 per cent for the third regulatory period while it investigates possible changes, and impacts on customers, ahead of the fourth regulatory period.

For the fourth regulatory period TasWater intends to engage customers with a detailed proposal that reflects a review of its customer service processes, resource allocation to the activities that are important to customers and more specific cost and service data for the contact centre. TasWater maintained that the proposal will provide customers with a clear picture of cost efficiency, issue resolution and contact centre response time.

TasWater has also initiated a Productivity Improvement Program that, in part, is investigating ways to provide its services (and meet its service standard targets) more efficiently in the third regulatory period than the entity has in the past.

A summary of TasWater's proposed service standards and targets for the third regulatory period is shown in Table 4.1 overleaf.

A column has been included into Table 4.1 to provide a comparison of targets (where applicable) for each of the service standards for the 2017-18 year of the current regulatory period.

As can be seen, for the majority of service standards TasWater is proposing that targets remain unchanged for the third regulatory period. Only three service standards show out-year targets which are worse (showing poorer targets for performance) than the targets set for the same measures in 2017-18. These are in respect to "Percentage of non-revenue water (of total sourced potable water)", "Percentage of unplanned water supply interruptions restored within 5 hours" and "Total water and sewerage complaints (no. per 1,000 properties)".

Table 4.1: TasWater's proposed service standards for the third regulatory period

Service standard	2017-18 target	Third regulatory period 2018-19 target	2019-20 target	2020-21 target
Water main breaks (no. per 100km of water main)	No target	35	35	35
Percentage of response times within 60 minutes to attend Priority 1 bursts and leaks[1]	90%	90%	90%	90%
Percentage of response times within 180 minutes (3 hours) to attend Priority 2 bursts and leaks[1]	90%	90%	90%	90%
Percentage of response times within 4320 minutes (3 days) to attend Priority 3 bursts and leaks[1]	90%	90%	90%	90%
Incidence of unplanned interruptions – water (no. per 1,000 properties)	No target	170	170	170
Incidence of planned interruptions – water (no. per 1,000 properties)	No target	20	20	20
Average duration of an unplanned interruption – water (minutes)	180	180	180	180
Average duration of a planned interruption – water (minutes)	180	180	180	180
Percentage of unplanned water supply interruptions restored within 5 hours[1]	98%	90%	90%	90%
Percentage of planned water supply interruptions restored within 5 hours[1]	90%	90%	90%	90%
Percentage of non-revenue water (of total sourced potable water) (unaccounted for water)	10%	28%	28%	28%
Sewerage mains breaks and chokes (no. per 100km of sewer main)	93	65	65	65
Percentage of response times within 60 minutes to attend sewer spills, breaks and chokes[1]	90%	80%	85%	90%
Percentage of sewage spills contained within 5 hours[1]	99%	99%	99%	99%
Total water and sewerage complaints (no. per 1,000 properties)	9	11	10	9
Water and sewerage complaints to the Ombudsman (no. per 1,000 properties)	0.5	0.5	0.5	0.5
Percentage of calls answered by an operator within 30 seconds	85%	85%	85%	85%

1. Denotes a 'minimum service standard'. Service standards associated with service response and resolution times are proposed as minimum service standards and should be interpreted as (for example) "TasWater will arrive onsite to a Priority 1 water supply burst within 60 minutes" rather than an average standard which would be "On average TasWater will arrive onsite to Priority 1 water supply bursts within 60 minutes".

Upon consideration, it is evident that the proposed revised targets are more closely reflective of TasWater's performance outcomes for these measures in the most recent two financial years for which performance data is available, a summary of which is provided in Table 4.2 below.

Table 4.2: Summary of actual performance and out-year targets on select measures

Service standard	2014-15 Actual	2015-16 Actual	2017-18 target	2018-19 target	2019-20 target	2020-21 target
Percentage of non-revenue water (of total sourced potable water)	22%	33%	10%	28%	28%	28%
Percentage of unplanned water supply interruptions restored within 5 hours	97%	94%	98%	90%	90%	90%
Total water and sewerage complaints (no. per 1,000 properties)	11.59	14.28	9	11	10	9

Having assessed the proposed targets for the aforementioned service standards, the Economic Regulator is satisfied with the performance goals set by TasWater with respect to "Percentage of non-revenue water (of total sourced potable water)" and "Total water and sewerage complaints (no. per 1,000 properties)", as the targets are more closely aligned to the entity's most recent actual performance results (or the average thereof).

The Economic Regulator does, however, question the setting of out-year targets for "Percentage of unplanned water supply interruptions restored within 5 hours" which are lower than the actual performance outcome by TasWater for this service standard in both 2014-15 and 2015-16. The Economic Regulator is of the view that TasWater should be setting a target which is, at the very least, equal to the poorer performance outcome of 94 per cent in 2015-16.

After assessing TasWater's customer service standards proposal, and noting the preceding discussion with respect to this matter, the Economic Regulator has concluded that TasWater's proposed customer service standards and targets (with the exception of targets noted for "Percentage of unplanned water supply interruptions restored within 5 hours"), as outlined in Table 4.1:

- are consistent with the service standards framework as agreed to by the joint TasWater/OTTER Working Group;
- are consistent with available information on TasWater's actual performance; and
- reflect the impact of TasWater's proposed expenditure programs.

The Economic Regulator is also satisfied that TasWater has sufficiently engaged with customers on their preferences for service standard targets, priorities and price and service trade-offs and have proposed service standards based on customer feedback.

The Economic Regulator intends to:

- *approve the proposed minimum service standards, as outlined in Table 4.1, for application by TasWater for each year of the third regulatory period; and*
- *approve the service standard targets for each minimum service standard, as outlined in Table 4.1, subject to the amendment of out-year targets for the "Percentage of unplanned water supply interruptions restored within 5 hours" metric from 90 per cent to 94 per cent; and*
- *implement the newly approved minimum service standards by changing the Customer Service Code (for a 1 July 2018 commencement).*

4.5 Customer contracts and policies

TasWater is required, under various legislative and regulatory instruments, to include in its proposed Price and Service Plan a series of draft policies and a draft customer contract.

The policies include those relevant to:

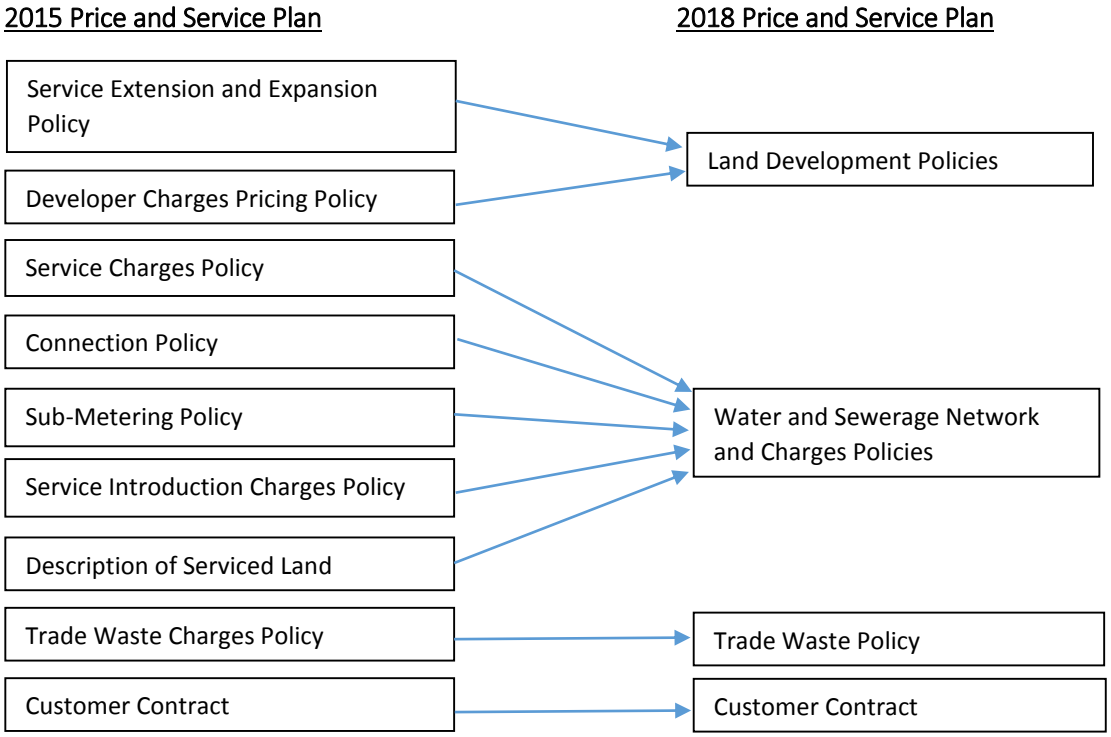
- Service extension and expansion;
- Developer charges;
- Service charges;
- Connections;
- Sub-metering;
- Service introduction charges; and
- Trade waste charges.

TasWater was also required to submit a description of serviced land that complies with the Industry Act and the Customer Service Code and underpins the policies listed above and which is sufficiently detailed to identify individual titles. In addition, TasWater was to outline the factors and considerations it may rely upon in determining and justifying whether land is serviced land.

The aforementioned policies, customer contract and service land description were submitted in May 2015 as separate attachments to TasWater's Price and Service Plan for the second regulatory period. However, for the 2018 Water and Sewerage Price Determination Investigation, TasWater has chosen to structure its Price and Service Plan attachments differently, and has amalgamated a number of the aforementioned policies, as well as the service land description, into two standalone policy attachments. One being titled 'Land Development Policies' and the second 'Water and Sewerage Network and Charges Policies'. TasWater has maintained its Trade Waste Policy as a separate policy.

The following diagram provides a representation of where customers, and other interested parties, may locate the customer contract and policy documents in TasWater's new structure of attachments for its proposed Price and Service Plan for the third regulatory period.

Diagram 4.1: Amalgamation of policy attachments - changes from second to third regulatory periods



4.6 Assessment of contracts and policies

The Economic Regulator has assessed TasWater's draft customer contract and draft policy documents as part of its price determination investigation process. The focus of the Economic Regulator's considerations has been one of compliance and accuracy. That is, the non-compliance matters/errors in the drafts (including those errors which have effect of rendering the document non-compliant).

To assist the Economic Regulator in its assessment processes, staff from OTTER have been liaising, over recent months, with TasWater with respect to a series of identified compliance and drafting concerns.

As a result of these communications, the policies and customer contract, as attached to this Draft Report, are revised versions of those same documents as initially submitted by TasWater as part of its proposed Price and Service Plan.

In this Draft Report, the Economic Regulator has indicated its intention to 'require' TasWater to submit the re-drafted documents (as attached) as part of the entity's final Price and Service Plan.

In addition, the Economic Regulator's PSP Guideline required TasWater to explain and justify any differences between its current policies (approved for the second regulatory period) and the policies it is proposing for the third regulatory period. The Economic Regulator has assessed that, in relevance to some of the policies, this was not satisfactorily undertaken. The Economic Regulator will, therefore, be intending to require TasWater to more adequately describe in the entity's final Price and Service Plan the changes to the policies in question. These matters are discussed in greater detail under the individual policy sections below.

4.7 Customer contract

Division 4 of the Industry Act requires a regulated entity to develop a customer contract for regulated services. It is also a requirement that the customer contract be prepared in accordance with the Water and Sewerage Industry Customer Service Code.

A customer contract is defined in the Industry Act as being the *"contract between a regulated entity and a customer for the provision of regulated services to the customer, which includes standard terms and conditions of service"*.

The Economic Regulator is required under the Industry Act to consider any customer contract in making a price determination that is to apply to a regulated entity in respect of a regulated service.

In accordance with section 65 of the Industry Act, and the Economic Regulator's PSP Guideline, TasWater included, in its proposed Price and Service Plan, the customer contract that it proposes using during the third regulatory period.

The Economic Regulator subsequently reviewed the draft customer contract for consistency with the provisions of the Customer Service Code, Industry Act and relevant Regulations.

As part of that assessment, the Economic Regulator identified a number of drafting matters it considered necessary for TasWater to address.

Consequently, and throughout the price investigation process, representatives of OTTER have liaised with TasWater with respect to those concerns. This collaboration resulted in TasWater providing a revised draft customer contract to the Economic Regulator for consideration, a copy of which is provided at Appendix 2 to this Draft Report.

The Economic Regulator's comments with respect to the customer contact did not extend to matters pertaining to the legality or enforceability of the customer contract as this is a TasWater responsibility to manage. Rather, the feedback focused on the customer contract's compliance, overall drafting and structure. The Economic Regulator is satisfied that issues identified with respect to the draft customer contract have now been suitably resolved by TasWater.

The Economic Regulator intends to approve the draft 'Customer Contract', as provided at Appendix 2 to this Draft Report, for submission as part of TasWater's final Price and Service Plan.

4.8 Trade waste policy

Trade waste means the liquid waste generated by any industry, business, trade or manufacturing process. As the definition of "sewage" under section 3 of the Industry Act includes trade waste, the disposal, removal and treatment of trade waste is a regulated service.

In accordance with the Economic Regulator's PSP Guideline, TasWater is required to develop a trade waste charges policy outlining how it intends categorising and treating trade waste customers.

The PSP Guideline also specifies that TasWater must also explain and justify, in its Price and Service Plan, any differences between its current trade waste policy and the trade waste policy it is proposing for the third regulatory period.

In its proposed trade waste policy for the third regulatory period, TasWater has added a short section and dot point relating to tankered trade waste, while removing sections that appear in the current policy and relate to customer self-assessment, developer charges, and cancellation or suspension of trade waste service. Contrary to the requirements of the PSP Guideline, TasWater did not provide any explanation for these changes in its proposed Price and Service Plan for the third regulatory period.

Other than that, TasWater is not proposing to make any significant changes to its current trade waste policy for the third regulatory period. The Economic Regulator notes that TasWater has altered the structure and style of its proposed trade waste policy, making it easier to read, but the policy content remains largely unchanged. The Economic Regulator recommended only minor changes to wording in its review of TasWater's proposed policy, which TasWater subsequently accepted.

Chapters 12 and 13 respectively describe the proposed structure of, and the proposed pricing for, TasWater's trade waste services during the third regulatory period.

The Economic Regulator intends to approve the draft 'Trade Waste Policy', as provided at Appendix 3 to this Draft Report, for submission as part of TasWater's final Price and Service Plan.

The Economic Regulator also intends to require TasWater to explain and justify the addition of a 'Tankered Trade Waste' section, and the removal of the 'Customer Self-Assessment', 'Developer Charges' and 'Cancellation and Suspension' from its proposed trade waste policy in its final Price and Service Plan.

4.9 Land Development Policies

4.9.1 Developer charges policy

In examining this issue the Economic Regulator notes that it is not responsible for industry or economic development and considers it more appropriate that the State Government or councils, as TasWater's owners, develop policies relating to economic development separate to policies and approaches relating to pricing matters.

Developer charges include: headworks charges; assets gifted by developers; and cash payments made by developers to a regulated entity for the construction of new reticulation works.

A developer charges policy is required to be included in the Price and Service Plan to be approved by the Economic Regulator. This policy covers arrangements for developers gifting assets or paying cash for the construction of new reticulation works and for setting headworks charges. The developer charges policy must be consistent with the requirements of the Industry Act and Regulation 20 of the Pricing Regulations and requires the regulated entity to estimate the amount of the developer charge and explain how it has been calculated.

Headworks charges are imposed to recover the costs of installing excess capacity within a water and sewerage network. It is not considered appropriate for existing customers to meet many of these costs as developers receive the benefit of being able to charge higher prices for fully serviced developed land and purchasers of that land receive the benefit, in terms of enhanced property values, from having land serviced by water and sewerage infrastructure.

TasWater's draft developer charges policy, as included in its proposed Price and Service Plan for the third regulatory period, was reviewed for compliance with the relevant legislative and regulatory provisions.

4.9.1.1 Approach to developer charges approved for the second regulatory period

For the second regulatory period, the Economic Regulator required TasWater to retain the arrangements for developer charges associated with works internal and works external, which involved charges being recovered on a cost reflective basis through direct payment or gifting of assets.

Analysis of options for headworks charges was required since TasWater proposed removing headworks charges for all developments in areas where there is sufficient existing capacity or are consistent with TasWater's immediate infrastructure growth plans. In addition, TasWater proposed introducing "out of sequence charges" for developments that require TasWater to bring forward works ahead of schedule and "isolated development charges" if the proposed development is outside of TasWater's growth plans.

The Economic Regulator's criteria for assessing these approaches to headworks charges included ensuring that the approach is consistent with the statutory pricing principles, including that it is cost reflective, transparent, provides certainty for developers and is simple to administer. The Economic Regulator considered that:

- some proportion of growth related costs should be recovered upfront from developers rather than over time from customers through recurrent charges;
- there are benefits in a headworks charging approach that is simple and provides certainty and a relatively level playing field for developers; and
- a sensible headworks charging approach should encourage developers to use existing capacity where it exists before requiring TasWater to invest in network augmentation.

The Economic Regulator accepted that developments within serviced land benefit existing customers when new customers connect because fixed costs are spread over a larger customer base. In relation to developments that represent extensions to serviced land, the Economic Regulator accepted that many of these developments are also likely to utilise existing capacity. The Economic Regulator therefore accepted TasWater's proposal to:

- not impose headworks charge for developments within serviced land; and
- not impose a headworks charge for developments occurring outside of serviced land but that utilise existing capacity.

However, the Economic Regulator considered that for a headworks charging approach to encourage the use of existing capacity, some locational price signals must be applied and be linked to capacity. Therefore, for any development that represents both an extension to serviced land and requires TasWater to undertake works (not covered by a "works external" arrangements), the Economic Regulator considered that TasWater should impose a headworks charge on the component of that development that cannot be satisfied by existing capacity. The Economic Regulator also considered that the NPV methodology is an appropriate methodology to apply in making this calculation.

The Economic Regulator also considered it appropriate that TasWater continue to use the NPV methodology for determining headworks charges for isolated developments.

For developments relating to extensions to serviced land or isolated developments, the Economic Regulator acknowledged that there may be relatively few occasions where the application of a headworks charge is necessary as the developer charges associated with works internal and works external, in some instances, incorporate all necessary works.

4.9.1.2 TasWater's proposed approach to developer charges in its proposed Price and Service Plan

TasWater stated in its proposed Price and Service Plan that its developer charges policy is largely unchanged from the policy approved for the second regulatory period and continues the approach of excluding headworks charges. According to TasWater, this approach is supported by the majority of the customers it engaged with during its customer and stakeholder consultation.

For new developments, TasWater refers to two types of water and/or sewerage infrastructure:

- Works internal – any infrastructure which is internal within a subdivision, up to the property boundary, is installed at a developer's cost and gifted (for example, contributed) to the regulated entity.

- Works external – where a development requires stand-alone assets (for example, a pump station) to be installed to support the development at the developer's cost.

TasWater has proposed continuing the current arrangements whereby charges associated with works internal and works external will be recovered on a cost reflective basis through direct payment or gifting of assets.

The Economic Regulator proposes to approve TasWater's retention of the current arrangements for developer charges associated with works internal and works external.

TasWater has proposed that developer charges be applied as follows:

- For developments within serviced land where the existing water and/or sewerage infrastructure can accommodate the demands of the proposed development, developer charges will not apply for the available capacity.

- For developments within serviced land where capacity is not available, the developer will be required to pay the cost of expansion of the system to the level of capacity required to service the development/use.

- For developments outside serviced land where capacity is available within an existing system, the developer pays the costs of extension, including connection, to that system and may access the available capacity in that system at no additional charge.

- For developments outside serviced land where insufficient capacity is available within an existing system, the developer pays the costs of extension, including connection, to that system and expansion of the system to the level of capacity required to service the development. Any existing spare capacity in that system that is less than the total required for the development will be made available at no additional charge.

- For developments outside serviced land where the development is not designed to connect to one of TasWater's existing systems (an Isolated Development/Use), all costs are paid by the developer. TasWater stated that, in its absolute discretion, it may contribute to the costs of development/use if it considers that there are strategic benefits from doing so.

The Economic Regulator proposes to approve TasWater's retention of the current arrangements for developer charges.

4.9.1.3 Development Assessment fees

The Economic Regulator identified that the development application fees in TasWater's Land Development Policies document were not the same as the development application fees in Appendix 15 of its proposed Price and Service Plan. All other fees were the same. The Economic Regulator asked TasWater to clarify which set of prices were being proposed. In response, TasWater provided a revised set of fees for development applications that were identical to those outlined in Appendix 15 of its proposed Price and Service Plan.

On 11 September 2017, TasWater wrote to the Economic Regulator and, amongst other matters, explained that while the Certificate for Certifiable Work/Certificate for Compliance fees were two separate fees in the second regulatory period they have been combined into one service and one fee for the third regulatory period. However, the fee in TasWater's proposed Price and Service Plan inadvertently only included the cost relating to the production of the Certificate for Certifiable Work, meaning that the fee was only about half the intended amount.

TasWater also stated that it has combined engineering design approval and asset creation services for the third regulatory period but inadvertently included only the engineering design approval cost in the fee.

The Economic Regulator's proposed Development Assessment Fees are outlined in Section 13.2.3.2 of this Draft Report.

4.9.2 Service extension and expansion policy

Section 56J of the Industry Act requires TasWater, as a regulated entity, to include in its proposed Price and Service Plan a policy that sets out the circumstances in which TasWater will extend and expand its water infrastructure and sewerage infrastructure. It is also a requirement that this policy include the terms and conditions that will apply to such an extension or expansion.

TasWater included a draft service extension and expansion policy in its Land Development Policies document attached to its proposed Price and Service Plan. The Economic Regulator subsequently reviewed the draft service extension and expansion policy for compliance against the relevant regulatory and legislative requirements.

The policy was generally well written with the Economic Regulator identifying only minor drafting issues for TasWater's consideration. Through ongoing liaison with OTTER representatives, TasWater introduced relevant revisions to its draft service extension and expansion policy to ensure consistency with provisions of the Industry Act and TasWater's Water and Sewerage Network and Charges Policies document. Amendments also included the removal of redundant defined terms which were not being used within the policy document, and the inclusion of two definitions which were deemed necessary.

In light of the TasWater addressing the aforementioned issues, the Economic Regulator is satisfied that the draft service extension and expansion policy, as included in TasWater's draft Land Development Policies document provided at Appendix 4 to this Draft Report, is a fully compliant and functional policy for submission as part of TasWater's final Price and Service Plan.

The Economic Regulator intends to approve the draft 'Land Development Policies' document, as provided at Appendix 4 to this Draft Report, for submission as part of TasWater's final Price and Service Plan.

The Economic Regulator also intends to require TasWater to ensure that its final Price and Service Plan is updated to reflect the correct Development Fees as documented under section 5 of the attached 'Land Development Policies' document.

4.10 Water and Sewerage Network and Charges Policies

4.10.1 Connection policy

The point where a customer's pipes connect to a regulated entity's water and sewerage infrastructure is known as the connection point.

It is a requirement under section 56U(1)(a) of the Industry Act, and the Economic Regulator's PSP Guideline, that a regulated water and sewerage entity include a connection policy with its proposed Price and Service Plan. To this end, TasWater included a draft connection policy in its Water and Sewerage Network and Charges Policies document.

As with other policy documents, the Economic Regulator reviewed TasWater's draft connection policy for consistency with the provisions of the Customer Service Code, Industry Act and relevant Regulations. That assessment resulted in the identification of a number of drafting amendments for TasWater to address. Specifically to ensure consistency with drafting of regulatory/legislative provisions and other TasWater policy documents.

The Economic Regulator also identified, as part of its review that TasWater's proposed connection policy for the third regulatory period varied in its drafting by comparison to the connection policy approved for the current regulatory period. Most notably with respect to the various criteria TasWater proposed to impose in order to permit the:

- connection of property to TasWater's water infrastructure and/or sewerage infrastructure;
- relocation of a connection to TasWater's water infrastructure and/or sewerage infrastructure; and
- adjustment of a connection to TasWater's water infrastructure and/or sewerage infrastructure.

As previously outlined, the PSP Guideline requires TasWater to explain and justify any differences between its current policies (approved for the second regulatory period) and the policies it is proposing for the third regulatory period. TasWater did not, however, document nor discuss, in its proposed Price and Service Plan, any variances between any of its policy documents. Rather, stating under section 4.4 on page 41 of its proposed Price and Service Plan:

> Our policies are largely unchanged from PSP2. However, we have decided to consolidate a number of the required policies to make them clearer and easier to use for customers.

As identified by the Economic Regulator, TasWater had, in fact, included additional criteria in its draft connection policy, for application from 1 July 2018, with respect to permitting connections and the relocation and adjustment of connections. The additional criteria are outlined below.

For connection:

- The person requests TasWater to connect the property to the infrastructure; and
- The property is within 30 metres of the infrastructure and for water services, can be supplied with treated water; and
- The physical characteristics or location of the property are not such as to require the application of unusual or unusually costly infrastructure, design, or installation techniques in order for the connection to be made by TasWater; and
- The connection does not cross property owned by a third party; and
- No plan of subdivision, or other instrument of a type approved by the Economic Regulator, specifies that connection to TasWater's infrastructure, or provision of regulated services by TasWater will not occur; and
- The property will receive the minimum pressure and flow at the connection as described in the Supplement (available on TasWater's website at www.taswater.com.au); and
- The person has complied with all reasonable terms and conditions of connection imposed by TasWater.

For relocation of a connection:

- The person requests the relocation of the connection to the infrastructure; and
- The relocation will not result in TasWater infrastructure crossing property owned by a third party; and
- The property will, following relocation of the connection, receive the minimum pressure and minimum flow rate at the connection as described in the Supplement (available on TasWater's website at www.taswater.com.au); and
- The person has complied with all reasonable terms and conditions of relocation of connection imposed by TasWater.

For adjustment of a connection:

- The person requests the adjustment to the connection to the infrastructure; and
- The adjustment will not result in TasWater infrastructure crossing a property owned by a third party; and
- The property will, following adjustment of the connection, receive the minimum pressure and minimum flow rate at the connection as described in the Supplement (available on TasWater's website at www.taswater.com.au); and
- The person has complied with all reasonable terms and conditions of adjustment of connection imposed by TasWater.

The Economic Regulator has assessed the additional criteria as being in accordance with the *Water and Sewerage Industry (Customer Service Standards) Regulations 2009* and, subsequently, the Customer Service Code, and concludes that they are reasonable terms and conditions which TasWater, as the regulated entity, may impose.

However, the Economic Regulator maintains that TasWater has not adequately met its obligations of the PSP Guideline with respect to explaining and justifying the differences between its currently approved and newly proposed connection policies. The Economic Regulator will, therefore, be intending to require TasWater to more adequately describe such variances in its final Price and Service Plan.

The assessment of TasWater's proposed connection policy also identified that TasWater had inadvertently omitted the inclusion of charges information pertaining to the relocation and adjustment of sewer connections. TasWater subsequently updated the "Network Charges and Fees" list at the end of its draft Water and Sewerage Network and Charges Policies document to include these costs.

Through ongoing liaison with OTTER, TasWater has satisfactorily addressed the aforementioned concerns with respect to the drafting of its connection policy. A copy of the revised draft connection policy is included in TasWater's draft Water and Sewerage Network and Charges Policies document provided at Appendix 5 to this Draft Report.

The Economic Regulator intends to approve the draft 'Connection Policy', as included in TasWater's 'Water and Sewerage Network and Charges Policies' document provided at Appendix 5 to this Draft Report, for submission as part of TasWater's final Price and Service Plan.

The Economic Regulator also intends to require TasWater to explain and justify, in its final Price and Service Plan, the differences between its current connection policy (approved for the second regulatory period) and the connection policy TasWater is proposing for the third regulatory period.

4.10.2 Sub-metering policy

TasWater is required to charge a variable charge for a water service with the variable charge payable for each unit of water delivered to the property to which the variable charge relates. TasWater installs a meter at each connection point to enable it to measure the volume of water delivered to each property.

As outlined in section 3A of the Industry Act, strata title lot owners are considered customers of TasWater even if their lot does not have a direct connection to TasWater's infrastructure but instead access water and sewerage services via interposing pipes situated on the strata title property. Therefore, as a customer of TasWater, the strata title lot owner is liable for fixed and variable charges. However, as there is only generally one meter located at the connection point to a property, sub-metering may be required to measure the volume of water used by each dwelling or area on that property to enable the calculation of variable charges for each dwelling or area on a property.

The legislation does not address the issue of whether strata title properties are to be sub-metered. In this way it is up to the regulated water and sewerage entity to propose under what circumstances a strata title property can be sub-metered and, if so, who bears the costs.

Consequently, TasWater is required under the PSP Guideline to develop, and submit for review and approval with its proposed Price and Service Plan, a sub-metering policy. TasWater must also explain and justify any differences between its current policies and the policies it is proposing for the third regulatory period. Once approved, TasWater must publish the policy and any supporting documentation on its web site.

4.10.2.1 Approach to sub-metering approved under the 2015 price determination investigation

For the second regulatory period, the Economic Regulator required TasWater's final sub-metering policy to:

- specify that a separate meter for common property is optional in that, if a separate meter for common property is not installed, then the difference between the volume measured at the master meter and the sum of the individual sub-meters is deemed to be the water usage for the common property;
- specify that if a sub-meter is installed to measure usage for common property there may be additional costs for lot owners;
- explain how the State Government concessions are applied to strata title lot owners;
- note that, since installing sub-meters and undertaking meter reading in multi-unit properties are unregulated services, owners of such properties have the option of using a third party to undertake these services;
- explain clearly the differences between the requirements for new multi-unit properties and the requirements for existing multi-unit properties;
- explain how fire services charges will be applied in strata title schemes;
- describe all possible metering configurations and the associated applicable billing arrangements including where a strata scheme has both master metering and direct connections that are separately metered.

- separately outline the billing arrangements when:
  a) the volume measured by the master meter is greater than the sum of the volumes measured by the sub-meters; and
  b) the volume measured by the master meter is less than the sum of the volumes measured by the sub-meters.
- specify that the minimum size of a sub-meter is 20mm and explain that each lot owner will be liable for:
  a) the target tariff fixed charges based on the relevant sub-meter size;
  b) variable charges based on their own usage;
  c) a proportion of any applicable common property water consumption; and
  d) a proportion of any usage measured by the master meter which is greater than the sum of the usage measured by the sub-meters.
- explain why, and under what circumstances, TasWater may decide to install a master meter where lots in a strata scheme already have individual meters and clearly state the implications for lot owners if a master meter is installed (for example, lot owners will be liable for any usage measured by the master meter which is greater than the sum of the usage measured by the sub-meters); and
- specify that TasWater can impose variable charges on a body corporate in accordance with Regulations 17(2) and 18(1) of the Pricing Regulations.

The Economic Regulator also required TasWater to provide an undertaking in its final Price and Service Plan that it will develop and make available supporting documentation that will set out a high level description of the process and procedure to be followed by strata title owners in deciding whether or not to install sub-meters. This documentation was to include, but not be limited to:

- the need to arrange for a vote of lot owners on whether to install sub-meters and to obtain all lot owners' agreement before proceeding;
- explaining any differences in process or treatment compared to standard arrangements; and
- describe what the bill will look like. For example, will charges in respect of common property be a separate line item or will the bill be based on a standard bill with a specific list of differences.

The Economic Regulator also required TasWater to provide an undertaking in its final Price and Service Plan that all relevant sub-metering documents (including application forms, diagrams, guidelines etc) will be made available on TasWater's website.

4.10.2.2 TasWater's proposed approach to sub-metering in its proposed Price and Service Plan

TasWater's proposed approach to sub-metering in its proposed Price and Service Plan for the third regulatory period is the same as the current policy. TasWater's draft sub-metering policy was reviewed for compliance with the relevant legislative and regulatory provisions.

Key parts of the policy include:

- for new developments the installation of sub-meters is a choice of the property owner;
- in existing strata schemes, all lot owners in a strata scheme must agree to sub-metering; and

- in existing multi-unit properties, sub-metering is at the discretion of the property owner.

The Economic Regulator considers that the current policy is comprehensive and remains appropriate reflecting a substantial amount of effort in developing and improving the presentation of the policy during the second regulatory period pricing investigation.

The Economic Regulator proposes to approve TasWater's retention of the current arrangements for sub-metering.

4.10.3 Service charges policy

A water and/or sewerage service charge is a charge levied on a property owner where there is an ability to access a service even if there is not yet a physical connection from the property to a regulated entity's water and sewerage infrastructure. The Industry Act allows, but does not require, a regulated entity to impose service charges for water services and sewerage services on owners of property within serviced land, based on the entity's description of serviced land. Those liable to pay service charges fall within the definition of customers under the Industry Act and are therefore covered by the entity's customer contract.

Service charges have traditionally applied in most parts of Tasmania, having been imposed by the majority of local government authorities prior to the regional water corporations being established and, subsequently, TasWater.

In its proposed Price and Service Plan for the third regulatory period, TasWater noted its intention to maintain its current approach to the imposition of service charges. That is, TasWater proposes that vacant land within its serviced land boundaries continue to be levied a service charge. TasWater proposes that the service charge for water continue to be equal to the fixed water charge for 20mm connections and the service charge for sewerage continue to be 60 per cent of one ET fixed sewerage charge.

TasWater provided supporting arguments in its proposed Price and Service Plan to justify maintaining its current approved approach to service charges, noting that in order to ensure it can service and supply all of the properties in its serviced area the entity has to spend money on maintaining pipes, pumps and running the treatment plants. In addition, TasWater claimed that there are significant public health and environmental benefits associated with piped, tested drinking water and sewage removal and treatment, and an associated increase in property values from the provision of these services.

TasWater's approach to date has been to share the cost between properties that use its services now and properties that may use its services in the future. TasWater maintains that if it did not do this, then properties that are connecting to TasWater's infrastructure now are carrying the burden of those that are not currently connected. In addition, TasWater argues that sharing the costs in this way assists in minimising prices in sparsely populated geographical areas throughout the State.

From the customer consultation process undertaken on its proposed Price and Service Plan, TasWater found that most customers (59 per cent) supported the retention of service charges. Overall the consultation found that 44 per cent of customers supported the principle of charging vacant land and that the charging arrangements should be retained, while another 15 per cent disagreed with the principle, but thought the charges should remain.

After consideration of TasWater's service charge proposal for application in the third regulatory period, the Economic Regulator intends to approve TasWater's continued application of service charges on the basis that it is appropriate for all customers who can connect to a service to contribute to the cost of the network and acknowledging that revenue collected from levying the charge is not insignificant, allowing services to be provided on a more cost effective basis.

In addition, and as per the approach approved for the second regulatory period, the Economic Regulator intends to approve that, from 1 July 2018, the service charge for water be equal to the fixed water charge for 20mm connections, recognising that no consumption occurs on these properties.

The Economic Regulator also intends to approve that the service charge for sewerage be 60 per cent of one ET fixed sewerage charge, recognising that no volume of sewage is discharged.

The draft service charges policy prepared by TasWater for the third regulatory period was included in the Water and Sewerage Network and Charges Policies document provided as an attachment to TasWater's proposed Price and Service Plan.

The Economic Regulator has assessed the draft service charges policy for consistency and compliance with the obligations and principles, as outlined in section 68A of the Industry Act. Only minimal drafting matters, to ensure consistency and compliance with the legislation, were identified from this review. TasWater subsequently provided a revised draft service charges policy to the Economic Regulator for consideration. The Economic Regulator is satisfied that issues identified with respect to the draft service charges policy were suitably resolved.

TasWater's proposed services charges for the third regulatory period are set out in the "Network Charges and Fees" list which can be located in TasWater's draft Water and Sewerage Network and Charges Policies document.

The Economic Regulator intends to approve TasWater's continued application of service charges on vacant land within TasWater's serviced land boundaries.

The Economic Regulator intends to approve that the service charge for water continues to be equal to the fixed water charge for 20mm connections.

The Economic Regulator intends to approve that the service charge for sewerage continues to be 60 per cent of one ET fixed sewerage charge.

The Economic Regulator intends to approve the draft 'Service Charges Policy', as included in TasWater's 'Water and Sewerage Network and Charges Policies' document provided at Appendix 5 to this Draft Report, for submission as part of TasWater's final Price and Service Plan.

4.10.4 Service introduction charges policy

The Pricing Regulations state that a price determination may require a Price and Service Plan for a regulated entity to include a policy in respect of service introduction charges. The policy must be consistent with the requirements of the Pricing Regulations and specify how the regulated entity will determine and apply service introduction charges consistent with the pricing principles.

As part of its PSP Guideline for the third regulatory period, the Economic Regulator required TasWater to develop, and submit for review and approval with its proposed Price and Service Plan, a policy with regards to service introduction charges.

To this end, TasWater provided a draft service introduction charges policy in its Water and Sewerage Network and Charges Policies document. This policy was assessed by the Economic Regulator for compliance with the Pricing Regulations and consistency with the proposed approach for service introduction as documented in TasWater's proposed Price and Service Plan.

In its proposed Price and Service Plan, TasWater defined service introduction as being the construction of water and/or sewerage infrastructure to provide reticulated services to localities not previously receiving them. TasWater noted that its draft service introduction policy details the process TasWater intends to follow once it receives a request to introduce water and/or sewerage service to a new

locality. In addition, the policy details that where a service introduction request proceeds, then it is proposed that one-off service introduction charges will be levied on the owners of properties within the service introduction area. The proposed service introduction charge is to cover the property owner's share of the cost of installing, altering or using TasWater assets so that TasWater can provide a regulated service to the owner's land. In addition, one-off or ongoing charges will apply such as connection charges, fixed and variable consumption charges.

TasWater intends to continue to calculate service introduction charges based on the net present value (NPV) of the cost of providing the assets specific to the service introduction and subtracting the present value of the amount that would be recovered from the threshold amount of customers (being 80 per cent) through ongoing annual water charges and/or sewerage charges (being fixed charges or service charges). Any third party funding contributions will be subtracted from the NPV calculations.

In its proposed Price and Service Plan, TasWater's outlined the following three stages in its service introduction process:

- Stage 1 Initial Consultation – TasWater will provide high level, preliminary design of the infrastructure, a map of the proposed service area and indicative service introduction charges per title for the service(s).
- Stage 2 Indicative Community Support – TasWater will test whether there is broad community support of at least 50 per cent for the service introduction proposal to undergo detailed design and business case development. TasWater Board approval of the business case is conditional on the threshold in Stage 3 being reached; and
- Stage 3 Community Commitment to Service Introduction – at least 80 per cent of owners of developed land titles within the proposed service introduction area must enter into an agreement committing to pay the service introduction charge and any other relevant charges.

TasWater did note that its service introduction charges policy approved for the second regulatory period (its current policy) uses an 80 per cent threshold for both stage 2 and stage 3. TasWater has argued that the high threshold for initial support and subsequent resources applied by the entity to engage the community was out of proportion to the level of commitment by TasWater or individual properties. The new 50 per cent threshold proposed by TasWater for the third regulatory period is to test whether the majority of the customers are interested in learning more about the proposal for TasWater to undertake detailed design.

The stage 3 threshold of 80 per cent continues as a 'commercially viable' test. The 80 per cent threshold is used in the calculation of the service introduction charge outlined above.

With the exception of the aforementioned threshold change, TasWater did not explain and justify any other differences between its current service introduction charges policy (approved for the second regulatory period) and that same policy as proposed for the third regulatory period. This was despite the Economic Regulator identifying, in its review of the draft service introduction charges policy document, an additional variation.

The currently approved service introduction charges policy for TasWater (applicable until 30 June 2018) states that *"In the event that TasWater is directed by a Council, the EPA or the DHHS to progress service introduction to a community/township, no service introduction charge will be imposed on property owners in that area."*

TasWater has chosen to remove this text in its proposed service introduction policy to apply from 1 July 2018. The newly proposed policy, as drafted, suggests that service introduction would only proceed based on commercial viability of the service introduction proposal and sufficient community engagement/commitment.

Officers from OTTER liaised with TasWater to ascertain the entity's reasoning for omitting discussion on service introduction required by other industry regulators or relevant Council officers. TasWater advised that the entity could not, in fact, be directed under law to introduce a service by these third parties. The Economic Regulator disagreed with this assessment, acknowledging that whilst Council and the EPA are unable to compel TasWater to introduce services, the provisions of the *Public Health Act 1997* (Public Health Act) permitted otherwise with respect to the Director of Public Health. Specifically, the sections of the Public Health Act relevant to 'Emergency Declarations' and 'Directions of the Director'. Applicable excerpts replicated as follows:

14. Emergency declaration

> *(1) The Director, by any means the Director considers appropriate, may declare that a public health emergency exists if satisfied that the situation requires it.*
>
> *(2) The declaration is to specify –*
>
> > *(a) the nature of the public health emergency; and*
> >
> > *(b) any area to which the declaration relates; and*
> >
> > *(c) the period during which the declaration is in force.*
>
> *(3) The Director is to notify the State Controller, within the meaning of the Emergency Management Act 2006 , if the existence of a public health emergency is declared under this section.*

16. Directions of Director

> *(1) While an emergency declaration is in force, the Director may take any action or give any directions to –*
>
> > *(a) manage a threat to public health or a likely threat to public health; or*
> >
> > *….*
> >
> > *(e) ….*
>
> *(2) The Director may give any one or more of the following directions while an emergency declaration is in force:*
>
> > *(a) ….*
> >
> > *….*
> >
> > *(e) that any other action be taken the Director considers appropriate.*
>
> *(2A) A direction given under this section may specify the manner in which the direction is to be complied with.*
>
> *(3) A person must comply with a direction of the Director given under this section.*

Under the above broad power, the Director of Public Health may, as an example, identify a public health emergency and subsequently consider that the most suitable action to be taken in response to that emergency is the introduction of water and/or sewerage services by TasWater.

While TasWater may argue that the likelihood of such an occurrence ever eventuating would be minimal at best, the legislative power for the Director of Public Health to direct TasWater to undertake an action (such as service introduction), that may be deemed necessary in response to a public health emergency, remains.

After some deliberation, the Economic Regulator conceded it was not concerned with information regarding such directions being specifically removed from TasWater's proposed service introduction

charges policy, as the Economic Regulator notes that any emergency declaration and subsequent direction by the Director of Public Health to TasWater with respect to service introduction would overrule the application of TasWater's service introduction charges policy. The Economic Regulator is, however, concerned that TasWater did not, in its proposed Price and Service Plan, explain and justify this variation in its policy as drafted for the third regulatory period. Consistent with the PSP Guideline, the Economic Regulator intends to require TasWater to more adequately document, in its final Price and Service plan, the differences between its current and proposed service introduction charges policies.

Following the progression of a series of suggested minor drafting amendments, TasWater provided a revised draft service introduction charges policy to the Economic Regulator for consideration. The Economic Regulator is satisfied that all matters identified with respect to the draft service introduction charges policy were suitably resolved and the policy is now consistent with the provisions of the Pricing Regulations. A copy of the revised draft service introduction charges policy is included in TasWater's draft Water and Sewerage Network and Charges Policies document provided at Appendix 5 to this Draft Report.

Through the ongoing liaison of OTTER and TasWater representatives on matters concerning service introduction, issues including incentives for land owners to commit to service introduction proposals and TasWater's recouping of costs associated with service introduction were discussed.

Under the proposed service introduction charges policy, service introduction charges will be levied on those owners of land who have signed a contract committing to a connection from the date on which their property is able to connect to TasWater's infrastructure and/or sewerage infrastructure and the agreement has commenced. In this way, very simply, the cost of service introduction within the proposed service introduction area is being borne by those land owners who have committed to connection.

There is a risk to TasWater that some land owners, in an attempt to avoid paying service introduction charges, will not sign a contract committing to connection. Rather, they may choose to wait until the service system is in place and operational before connecting to TasWater's infrastructure. Consequently, there is a potential for TasWater to be disadvantaged from not obtaining otherwise entitled amounts of revenue and an inequity across customers where some have paid significant service introduction charges where others, in the newly serviceable area, have not.

It is, however, acknowledged that TasWater's policy provides that owners of land who choose not to connect to TasWater services will become liable to pay service charges following completion of works and availability of services. The levying of such service charges would recoup some of the costs associated with the service introduction undertaking.

It is also acknowledged that the community members of any proposed service introduction area would be discussing amongst themselves the benefit, or otherwise, of service introduction in reaching a resolution of whether or not to support a service introduction proposal. Community views may contribute to land owners committing to connection rather than attempting to avoid paying the service introduction charge by delaying a decision to connect.

The Economic Regulator <u>intends to approve</u> the draft 'Service Introduction Charges Policy', as included in TasWater's 'Water and Sewerage Network and Charges Policies' document provided at Appendix 5 to this Draft Report, for submission as part of TasWater's final Price and Service Plan.

The Economic Regulator <u>intends to require</u> TasWater to explain and justify, in its final Price and Service Plan, all of the differences between its current service introduction charges policy (approved for the second regulatory period) and the service introduction charges policy TasWater is proposing for the third regulatory period.

4.11 Serviced land

4.11.1 Background

Serviced land is land that TasWater will permit to be connected to its infrastructure.

The identification of serviced land is important as it determines TasWater's obligation to connect and supply customers. Serviced land also underpins policies and arrangements with respect to service extension and expansion, service charges, service introduction, service replacement and developer charges.

4.11.2 Legislative requirements

Section 56U(1)(b) of the Industry Act requires a regulated entity's proposed Price and Service Plan to include a description of the land (identifiable by individual title or locality) it will permit to be connected to the regulated entity's water or sewerage infrastructure, such as, a description of serviced land.

In addition to complying with section 56U(1)(b) of the Industry Act, TasWater must also comply with clause 2.2 of the Customer Service Code which requires a regulated entity to connect a property to its existing infrastructure if:

- the property is within 30 metres of that infrastructure; and
- the person requests the regulated entity to connect the property to the infrastructure; and
- the person has paid, or has agreed to pay, all applicable fees for connection; and
- the person has complied with all reasonable terms and conditions of connection imposed by the regulated entity; and
- the connection is required to be made by the provisions of the Customer Service Code, a customer charter made in accordance with the Customer Service Code, or a policy contained in an approved Price and Service Plan of the regulated entity; and
- the physical characteristics or location of the property are not such as to require the application of unusual or unusually costly infrastructure, design, or installation techniques in order for the connection to be made; and
- no plan of subdivision, or other instrument of a type approved by the Economic Regulator, specifies that connection to the regulated entity's infrastructure, or provision of regulated services by the regulated entity, will not occur.

4.11.3 Describing and identifying serviced land

The PSP Guideline states that a description of serviced land must be included with the Price and Service Plan that: complies with the Industry Act and the Customer Service Code; underpins TasWater's policies; and is sufficiently detailed to identify individual titles. TasWater must also outline the factors and considerations it may rely upon in determining and justifying whether land is serviced land.

4.11.4 Connecting properties outside serviced land

TasWater does not have an obligation to connect a property to its infrastructure if that property is outside serviced land. However, at the same time, there is nothing preventing TasWater from entering into an arrangement with a property owner to connect a property outside serviced land.

TasWater stated that section 6 of its Water and Sewerage Network and Charges Policies document and its Land Development Policies document outline the circumstances when TasWater will consider allowing unserviced land to connect to its network.

The Economic Regulator notes that TasWater's Conditional Connections Policy, which was submitted by TasWater as section 6 of the water and sewerage network and charges policies document, is not a regulated policy. Connections made under the Conditional Connections Policy are non-standard connections which are subject to a contract under section 61 of the Industry Act. Section 61 contracts are usually adopted for large trade waste and large water service customers which have the ability to negotiate contractual obligations and rights with TasWater. In contrast, smaller customers do not have the same negotiating power and therefore need the Customer Service Code protections provided in the standard customer contracts. Section 61 contracts do not necessarily have to be consistent with a price determination or other economic regulatory requirements (such as provisions of the Customer Service Code), provided that the customer agrees.

Since the Economic Regulator will not be approving TasWater's Conditional Connections Policy, TasWater is required to remove section 6 from the document.

4.11.5 TasWater's proposed approach to serviced land - water

TasWater has stated that it identifies titles with a full service based on servicing factors and the standards in the *TasWater Supplement to Water Supply Code of Australia WSA 03-2011-3.1 MRWA Edition V2.0*. This code details the minimum service pressure at peak hour demand and minimum flow rate:

- minimum service pressure at the connection point is 220 kPa, static head of 22m (section 2.5.3.3 of the Customer Service Code); and
- minimum flow rate 15 litres/minute (L/m) at the connection point (section 2.12 of the Customer Service Code).

TasWater proposes that land titles are defined as being water serviced land when they meet all of the following criteria (land titles that do not meet the criteria are unserviced for water):

- can be supplied with treated water; and
- are within 30 metres of the water reticulation main; and
- can receive the minimum flow and pressure at the connection point; and
- connection to the reticulation network would not cross a land title owned by a third party; and
- the physical characteristics or location of the land title are not such as to require the application of unusual or unusually costly infrastructure, design, or installation techniques in order for the connection to be made.

Treated water means either fully treated water or disinfection only water supplies. Raw water supplies are excluded. TasWater proposes that customers in serviced land receiving water that is not safe for drinking will receive a discount on the regulated variable consumption rate.

Existing or new connections that receive untreated water (raw water) or are directly connected to a bulk transfer main are connections outside serviced land and are dealt with in accordance with TasWater's Conditional Connections Policy.

4.11.6 TasWater's proposed approach to serviced land - sewer

TasWater proposes that land titles are defined as sewer serviced land when they meet all the following criteria (land titles that do not meet the criteria are unserviced for sewer):

- are within 30 metres of the sewer reticulation main; and
- connection to the reticulation main would not cross a land title owned by a third party; and
- the physical characteristics or location of the land title are not such as to require the application of unusual or unusually costly infrastructure, design, or installation techniques in order for the connection to be made; and
- are not otherwise considered unserviced land in accordance with section 3.4 of the Water and Sewerage Network and Charges Policies document.

According to TasWater, pressure sewer schemes established before 1 July 2015 are defined as unserviced land.

4.11.7 Assessment of TasWater's approach to determining serviced land

The Economic Regulator considers that identifying titles that are not within 30 metres of a TasWater reticulation main as "unserviced" complies with clause 2.2 of the Customer Service Code. The Economic Regulator also considers that land needing an easement over private land is justification for identifying a title as unserviced given the requirement under clause 2.2 that the physical characteristics or location of the property are not such as to require the application of unusual or unusually costly infrastructure, design, or installation techniques in order for the connection to be made.

The Economic Regulator considers that TasWater's proposed minimum flow and pressure standards from the TasWater Supplement to the Water Supply Code of Australia are appropriate for the definition of serviced land. The Water Supply Code is prepared by the Water Services Association of Australia, which is the industry's peak body.

In the second regulatory period, serviced land included land receiving a full service or a limited service. Titles receiving a limited service were known as limited service areas. For the third regulatory period, TasWater are proposing to remove the concept of limited service areas. Land is either serviced land or unserviced land.

TasWater has proposed that existing connections that receive untreated water (raw water) or are directly connected to a bulk transfer main are connections outside its serviced land and are dealt with in accordance with TasWater's Customer Contract or other agreements. The Economic Regulator notes that, despite the removal of the concept of limited service areas from serviced land, the contracts, section 61 agreements, or other agreements do not change for existing customers receiving a limited service. Any protections or other benefits under the contracts or agreements remain in place. The limited water quality and limited water supply customer classes remain.

TasWater has proposed that new connections that receive untreated water (raw water) or are directly connected to a bulk transfer main are connections outside serviced land and are dealt with in accordance with the Conditional Connections Policy. The Economic Regulator notes that, under the legislation, TasWater does not have an obligation to connect a property to its infrastructure if that property is outside serviced land but there is nothing preventing TasWater from entering into an arrangement with a property owner to connect a property outside serviced land.

Therefore, TasWater's proposal to remove the concept of limited service areas from serviced land does not disadvantage customers. TasWater is required to update its serviced land maps to reflect the new serviced land definition.

The Economic Regulator intends to approve TasWater applying the minimum water flow and minimum water pressure figures outlined in TasWater's Supplement to the Water Services Association of Australia's Water Supply Code of Australia in determining whether a property or part of a property is within serviced land.

The Economic Regulator intends to require TasWater to publish TasWater's Supplement to the Water Services Association of Australia's Water Supply Code of Australia together with any other additional relevant information that would assist customers and stakeholders in determining whether their property or part of their property is within serviced land.

The Economic Regulator intends to approve TasWater's approach to the definition of serviced land with limited service areas being removed from serviced land.

The Economic Regulator intends to require TasWater to: publish separate descriptions of serviced land for water services and sewerage services; continue to make descriptions of serviced land for both water and sewerage services publicly available (eg on the entity's website, at a fixed address, by phone); and ensure that the description of serviced land is updated and published on a regular and ongoing basis (ie on at least a monthly basis or when serviced land boundaries change).

The Economic Regulator also intends to require TasWater to update its serviced land maps to reflect the new serviced land definition.

4.12 Service replacement

4.12.1 Background

Service replacement involves replacing reticulated services with other arrangements, most commonly replacing reticulated water supply with water tanks. The Economic Regulator considers that it is important that a robust framework exists for TasWater to follow when considering whether to replace an existing service.

Any reductions in serviced land due to service replacement proposals will need to be approved by the Economic Regulator prior to that service replacement taking place and, consequently, the serviced land boundary changing.

Service replacement will only be permitted where:

- there are environment or public health issues that need to be addressed; and
- the cost of addressing those concerns through upgrades to the reticulated system is considered uneconomical.

The Economic Regulator does not intend assessing a serviced land reduction proposal, arising from service replacement, from a wider socio-economic or public benefit perspective. Rather, the Economic Regulator's assessment will be based on whether TasWater has followed an appropriate process and whether the proposal has appropriate support.

4.12.2 Regulatory framework

The water and sewerage regulatory framework provides guidance in relation to the requirement for a regulated entity to make customer connections and sets out conditions that apply to the disconnection of customers from reticulated services.

Regulation 8 of the Customer Service Regulations provides that a regulated entity can initiate the disconnection of a reticulated service under certain circumstances, including where the customer has requested or agreed to the disconnection.

Where a service replacement proposal involves disconnecting regulated reticulated services, it is considered that Regulation 8 provides the opportunity to do so. However, the water and sewerage regulatory framework does not explicitly address the issue of service replacement.

The PSP Guideline states that the Economic Regulator, as part of its 2015 Price Determination Investigation, approved a service replacement process that was required to be reflected in TasWater's Price and Service Plan for the second regulatory period and must be followed by TasWater when considering whether to replace a service.

The PSP Guideline also states that if TasWater proposes any changes to the service replacement process approved for the second regulatory period for the third regulatory period, it will need to clearly justify any departures from the current process including evidence of consultation with stakeholders.

The Economic Regulator did not require specific service replacement proposals to be submitted for approval as part of TasWater's proposed Price and Service Plan.

However, the Economic Regulator expects that TasWater's proposed Price and Service Plan will identify areas where it has undertaken preliminary analysis and community consultation in respect to the potential replacement of an existing service and to provide information in line with the above considerations, where it has that information.

4.12.3 Assessment of TasWater's service replacement proposals

In its proposed Price and Service Plan for the third regulatory period, TasWater stated that in the second regulatory period there remained a number of small towns across the state where the water supply did not comply with the Tasmanian Drinking Water Quality Guidelines (TDWQG). TasWater also stated that at the commencement of the third regulatory period all of these towns will either:

- have a compliant drinking water service; or
- a compliant drinking water service will be close to finalisation; or
- service replacement will have occurred.

4.12.4 Assessment of TasWater's proposed service replacement process

TasWater's proposed Price and Service Plan states that its process for service replacement is largely unchanged from the process used in the second regulatory period, with only minor revisions to improve clarity (such as, on the level of community support required to proceed).

In its 2015 Price Determination Final Report the Economic Regulator stated that TasWater must engage the community to ensure the process for service replacement is transparent and present evidence of broad community support for any proposal. Broad community support was not a defined term. For the third regulatory period TasWater is proposing "broad community support" be defined as 80 per cent of customers on signed agreements for service replacement. TasWater also proposes that sufficient support for an opt-in irrigation supply be defined as support from 80 per cent of customers in the serviced area. The Economic Regulator considers that an 80 per cent threshold is an appropriate indicator of broad community support for use in the service replacement process.

TasWater proposes that customers have 150 days to respond to a Service Replacement Offer. The Economic Regulator considers this to be a reasonable offer period.

TasWater proposes replacing "chooses" with "indicates" in the process for engagement with community and regulators: "Community indicates type of service replacement to be implemented (eg rainwater tanks). Under the service replacement process, the community would be presented with options from TasWater. The word "chooses" suggests more than one type of service replacement being offered by TasWater or that the community chooses the option independently of TasWater. Given that it is TasWater who provides the options to the community and in many cases the only option TasWater can offer is water tanks, the community choosing the type of service replacement is not an accurate description of the process. The word "indicates" would allow for all scenarios from one option or many options from TasWater.

The Economic Regulator notes that TasWater's proposed service replacement process did not include any further steps should a customer reject the service replacement offer and provides the "Offer rejected" form.

Under the current process, should a customer reject TasWater's service replacement offer, customers receive a revised service replacement offer and, if rejected by the customer a second time, the customer may seek a review of TasWater's offer by the Ombudsman.

The current process includes the customer having a right of review of TasWater's offer. The Economic Regulator considers it important that if a customer feels that TasWater's service replacement offer is inadequate and is unable to resolve the matter, it is made clear that they have the opportunity to address this through the standard complaints handling arrangements and if not satisfied can have this matter resolved by the Ombudsman.

In providing a property owner with a service replacement offer it is expected that TasWater would, firstly, need to undertake a robust risk and site assessment and apply an accepted methodology in determining the appropriate design of the proposed service replacement option. For example, in the case of rain water tanks, the Economic Regulator expects that offers would be based on an accepted approach to the sizing of the tanks based on appropriate rainfall data.

The current process provides for an explicit right of review of TasWater's decisions in relation to offers made by TasWater to individual customers but also utilises the existing complaints handling process whereby complainants should generally lodge and attempt to resolve complaints with TasWater in the first instance before seeking the Ombudsman's review. Should a property owner refuse to engage in the process, the current process includes the Economic Regulator approving a change to the serviced land area and subsequent disconnection of the property by TasWater, without prior installation of an alternative supply for the property owner.

TasWater also has not proposed any process under which the property owners of a community could choose, instead of service replacement, to contribute to the costs of upgrading their current reticulated service. Therefore, in the absence of a proposal from TasWater, TasWater will not be able to provide this as an option to communities during the second regulatory period as the methodology for determining any such charge needs to be approved by the Economic Regulator before agreements can be entered into with property owners.

While not included in its proposed Price and Service Plan, it is the Economic Regulator's understanding that TasWater is considering the option of paying cash to customers to undertake the installation of assets for service replacement (in the past TasWater installed the replacement service or sub-contracted the work). The Director of Public Health has raised concerns with this possible approach since it is not clear when the Director of Public Health can give its approval and there is a risk that a customer could use the money for purposes other than the installation of the appropriate assets.

While it is necessary for TasWater to comply with its regulatory obligations, it is also expected that proposals for reticulated service replacement will be consistent with relevant established policies and initiatives, including regional land use planning frameworks. It is also expected that any proposal will take account of fire-fighting requirements to the satisfaction of the Tasmania Fire Service.

In keeping with the independence of the various regulators involved in the decision-making process, it is the responsibility of each regulator to determine the basis on which it might assess the extent to which a particular proposal is considered satisfactory.

The Economic Regulator intends to require TasWater to continue using the current service replacement process with minor changes to the definition of broad community support; the offer period and the use of the word "indicates" rather than "chooses".

The Economic Regulator also intends to require TasWater to not offer the option of paying cash to customers to undertake the installation of assets for service replacement.

5 DEMAND FORECASTS

The maximum prices that TasWater can charge for its regulated services depend on its expected regulated revenue, notional maximum revenue and demand forecasts.

The Economic Regulator required TasWater to use a demand forecast to estimate both its regulated revenue and future capex for each financial year of the third regulatory period.

To demonstrate the effectiveness of TasWater's current demand forecasting methods, the Economic Regulator also required TasWater to include information for each financial year of the current regulatory period including:

- actual customer numbers;
- actual water demand;
- actual number of transactions subject to miscellaneous fees; and
- an explanation of the reasons for any variations between forecast and actual demand.

Due to the method used to calculate TasWater's prices, if forecast demand is higher than actual demand this results in lower prices for customers. Therefore, the Economic Regulator is more concerned if TasWater's forecasts are lower than actual demand.

5.1 Water demand forecast

TasWater's proposed Price and Service Plan presented forecast and actual water customer and water usage data for the 2015-16 financial year, which was the only year of the second regulatory period for which TasWater had actual data at the time of submitting the plan. Following TasWater's submission of its proposed Price and Service Plan, the Economic Regulator requested that TasWater report actual data for the 2016-17 financial year as soon as it became available. TasWater provided this data to the Economic Regulator in September 2017. Table 5.1 contains a summary of the data from TasWater's proposed Price and Service Plan and the data submitted in response to the Economic Regulator's request.

Table 5.1 Comparison of TasWater forecast and actual demand - 2015-16 and 2016-17 - Water

	2015-16		2016-17	
	Equivalent 20mm connections	Water use (ML)	Equivalent 20mm connections	Water use (ML)
Forecast	255 278	57 964	258 053	59 170
Actual	256 131	58 865	262 580	55 721
- *Standard connections*	*235 350*		*237 924*	
- *Fire service connections*	*20 781*		*24 656*	
Difference	853	901	4 527	-3 449
Difference (%)	0.3	1.6	1.8	-5.8

In its Price and Service Plan for the second regulatory period, TasWater did not separately forecast equivalent 20mm connections and equivalent 20mm fire service connections. As shown in Table 1, the combined actual demand for these two services was only slightly higher (0.3 per cent) than TasWater's original equivalent 20mm connections forecast for 2015-16. However, the Economic Regulator notes that removing equivalent 20mm fire services connections from this comparison results in actual demand being 7.8 per cent lower than TasWater's 2015-16 forecast.

Table 1 also shows that in the data provided for 2016-17, actual demand proved to be 1.8 per cent higher than TasWater's updated forecast. The Economic Regulator notes that in its Price and Service Plan for the second regulatory period, TasWater originally forecast equivalent 20mm connections demand of 256 044 in 2016-17. Comparing actual 2016-17 demand with TasWater's original forecast demand shows the actual demand to be 2.6 per cent higher than originally forecast.

TasWater reported in its proposed Price and Service Plan for the third regulatory period that it had refined both its actual data and its demand forecasting method since forecasting demand for the second regulatory period. TasWater therefore considers that its demand forecasts for the third regulatory period are more robust than for the second regulatory period. Judging by the updated forecast and actual demand figures that TasWater submitted for 2016-17, the Economic Regulator is satisfied that TasWater appears to have improved its demand forecasting methodology.

TasWater noted that actual water use in 2015-16 was 1.6 per cent higher than originally forecast. TasWater attributed this to 2015-16 being a hotter than average year in Tasmania[5], leading to higher than average outdoor water use. Conversely, actual water use in 2016-17 was 5.8 per cent lower than TasWater's updated forecast. Compared against the original forecast in TasWater's Price and Service Plan for the second regulatory period, actual demand was still 4.2 per cent lower than forecast. TasWater attributed this outcome to the May to December period of 2016 being significantly wetter than average for Tasmania[6], leading to lower than average outdoor water use.

For the third regulatory period, TasWater has forecast growth in the number of equivalent 20mm connections, equivalent 20mm fire service connections and water use, as shown in Table 5.2.

Table 5.2 TasWater demand forecast summary for third regulatory period - Water

Financial year	2018-19	2019-20	2020-21
Equivalent 20mm connections (number)	240 709	242 471	244 235
Equivalent 20mm connections (% growth)	0.74	0.73	0.73
Equivalent 20mm fire service connections (number)	21 130	21 244	21 360
Equivalent 20mm fire service connections (% growth)	0.55	0.54	0.54
Water use (kilolitres)	59 761 540	60 051 223	60 339 237
Water use (% growth)	0.50	0.48	0.48

TasWater submitted the model it used to arrive at these forecast numbers for the Economic Regulator's review. As the basis for its demand forecasts, TasWater has used population growth estimates from the Department of Treasury and Finance's *2014 Population projections for Tasmania and its Local*

[5] The Australian Bureau of Meteorology reports that in 2016 the mean temperature in Tasmania was 0.88°C above average, which is a record for the state.

[6] The Australian Bureau of Meteorology reports that the eight months from May 2016 to December 2016 was the wettest eight-month period on record for Tasmania.

Government Areas. Other variables that TasWater has used to develop its water demand forecasts include:

- estimates of the number of persons per household in Tasmania produced by the Australian Bureau of Statistics in its *Household and Family Projections, Australia, 2006 to 2031*;
- an assumed ratio of infill to greenfield development (32.5 per cent) based on current and future desired ratios published by the Southern Tasmanian Regional Councils Association in its *Southern Tasmania Regional Land Use Strategy 2010-2035*; and
- an assumed percentage of the number of total new developments occurring on infill lots with existing water and/or sewerage services (6.5 per cent) based on TasWater's own approved development applications data.

Having reviewed TasWater's demand forecast model, considered the relevant assumptions and checked the figures informing the forecasts, the Economic Regulator is satisfied that TasWater's water demand forecasts for the third regulatory period are reasonable, based on realistic assumptions and consistent with observed trends. The Economic Regulator also notes significant improvements in TasWater's demand forecasting method and rationale since the second regulatory period, and is satisfied that this has resulted in forecasts for the third regulatory period that appear to be more reasonable.

5.2 Sewerage demand forecast

As well as water customer and usage data, TasWater's proposed Price and Service Plan provided forecast and actual sewerage customer data for the 2015-16 financial year. TasWater separately submitted actual sewerage customer data for the 2016-17 financial year. Table 3 contains a summary of this data.

Table 5.3 Comparison of TasWater forecast and actual demand - 2015-16 and 2016-17 - Sewerage

	Wastewater ETs	
	2015-16	2016-17
Forecast	238 967	233 545
Actual	231 848	234 456
Difference	-7 119	911
Difference (%)	-3.0	0.4

As shown in Table 5.3, actual wastewater ETs in 2015-16 were somewhat lower than forecast by TasWater in its Price and Service Plan for the second regulatory period. Similarly, actual demand for wastewater ETs in 2016-17 was 2.2 per cent lower than TasWater's original forecast. TasWater's updated demand forecast for 2016-17 was much closer to actual demand, resulting in a difference of only 0.4 per cent. TasWater explained the discrepancies with its original forecasts as being partly due to the way it previously calculated ETs based on customer billing codes. TasWater reported that it has reviewed its calculation of ETs as part of ongoing business improvements, and expects that, as a result, its sewerage demand forecasts for the third regulatory period will be more accurate than for the second regulatory period.

TasWater's forecast growth in the number of wastewater ETs during the third regulatory period is shown in Table 5.4.

Table 5.4 TasWater demand forecast summary for third regulatory period - Sewerage

Financial year	2018-19	2019-20	2020-21
Wastewater ETs (number)	236 893	238 556	240 225
Wastewater ETs (% growth)	0.71	0.70	0.70

The Economic Regulator notes that TasWater has changed the way it calculates the number of wastewater ETs, as it indicated it would do following the 2015 price investigation. Consequently, TasWater's sewerage demand forecasts for the third regulatory period are lower than for the second regulatory period, and appear much more reasonable to the Economic Regulator.

TasWater's demand forecast model for the third regulatory period used the same inputs, assumptions and variables to calculate the forecast demand for wastewater ETs as that used to calculate the forecast demand for equivalent 20mm water connections. As with the demand forecasts for water discussed above in section 5.1, the Economic Regulator is satisfied that TasWater's sewerage demand forecasts for the third regulatory period are reasonable, being based on realistic assumptions and consistent with observed trends.

5.3 Forecast of the number of miscellaneous transactions

TasWater's proposed Price and Service Plan also contained forecast and actual miscellaneous services data for the 2015-16 financial year. The miscellaneous services referred to by TasWater included special meter reads, structures over works consents, service locations, property information plans, pressure and flow tests, and land information certificate requests. TasWater has provided the Economic Regulator with some forecast and actual miscellaneous services data for 2016-17, explaining that it records its miscellaneous services transactions in various locations and the data is therefore hard to collate. The 2016-17 data that TasWater has reported so far refers only to the miscellaneous services for which TasWater is able to confirm transaction numbers.

Table 75 and Appendix 15 in TasWater's proposed Price and Service Plan provide a full list of the miscellaneous services it charges customers for, while Table 5.5 below summarises the forecasts of the number of these transactions. Readers should be aware that the figures for 2016-17 shown in Table 5 are incomplete, referring only to the miscellaneous services data that TasWater has been able to collate so far.

With regard to the forecast and actual miscellaneous services reported for 2016-17 so far, TasWater notes that while the demand for each type of miscellaneous service tends to be relatively low it can vary widely from year to year. The Economic Regulator acknowledges this point, and therefore does not believe it is appropriate to make any judgement on TasWater's miscellaneous services forecasts for 2016-17 until all the relevant data is available.

TasWater's proposed Price and Service Plan acknowledged the very large difference between forecast and actual miscellaneous services transactions for 2015-16. By way of explanation, TasWater pointed out that the regional water entities did not levy a number of the miscellaneous services charges currently levied by TasWater. Therefore, TasWater based its miscellaneous services transactions forecast for the second regulatory period on a base of fewer miscellaneous services than currently exist. TasWater has improved its reporting methods to correct this issue in forecasting demand for miscellaneous services for the third regulatory period.

Table 5.5 Comparison of TasWater forecast and actual demand - 2015-16 and 2016-17 - Miscellaneous services

	Miscellaneous services transactions	
	2015-16	2016-17
Forecast	13 090	9 206
Actual	19 902	16 006
Difference	6 812	6 800
Difference (%)	52.0	73.9

Table 5.6 shows TasWater's demand forecasts for miscellaneous services transactions during the third regulatory period. In these forecasts, TasWater has removed service locations and property information plans from its calculations and substituted account establishments and closures. TasWater reported that these particular miscellaneous services are the most materially important in terms of overall numbers of transactions and the revenue that those transactions provide.

Table 5.6 TasWater demand forecast summary for third regulatory period - miscellaneous services transactions

Financial year	2018-19	2019-20	2020-21
Miscellaneous services transactions (number)	36 665	36 767	36 867
Miscellaneous services transactions (% growth)	0.28	0.28	0.27

In reviewing TasWater's demand forecast model, the Economic Regulator found that TasWater had miscalculated the actual number of miscellaneous services transactions for 2015-16, and had carried the error over into the forecast miscellaneous services transactions figures in its proposed Price and Service Plan. The Economic Regulator notified TasWater of this issue, and TasWater subsequently provided the Economic Regulator with the updated, accurate demand forecast figures that are shown in Table5.6.

The Economic Regulator notes that TasWater's forecast demand for miscellaneous services transactions in the third regulatory period is much higher than its forecast for the second regulatory period. This is due to TasWater substantially increasing the number of miscellaneous services it offers to its customers. The Economic Regulator also observes that TasWater has improved its approach to, and the accuracy of the method of, forecasting demand for miscellaneous services transactions for the third regulatory period, addressing the shortcomings in its forecasting methods identified during the second regulatory period.

TasWater's forecast demand for miscellaneous services in the third regulatory period, based on past actual demand figures and the demand forecasts for other relevant services, satisfies the Economic Regulator's expectations that TasWater's miscellaneous services demand forecasts for the third regulatory period be reasonable, based on realistic assumptions and consistent with observed trends.

5.4 Economic Regulator's draft conclusions

Having reviewed TasWater's demand forecast model for the third regulatory period, the Economic Regulator considers the model to be sound. The Economic Regulator also considers that TasWater has fulfilled the demand forecasting requirements outlined in the PSP Guideline. The Economic Regulator therefore intends accepting TasWater's demand forecast figures as appropriate inputs to its revenue calculation for the third regulatory period, and does not intend requiring TasWater to alter the demand forecasts used in its proposed Price and Service Plan.

Based on its assessment of TasWater's proposed demand forecasts, the Economic Regulator intends to accept TasWater's proposals.

6 CAPITAL EXPENDITURE

Capex refers to the amount invested by TasWater in new regulated assets. Capex on unregulated assets is not taken into account for the purposes of calculating TasWater's maximum allowed regulated revenue.

Capex is a key building block component as it is an input into the calculation of both regulatory depreciation for new assets (see Chapter 8) and the RAB roll forward (see Chapter 10).

The Economic Regulator expects TasWater to develop and maintain a prudent and efficient capex program that allows it to cater for its customer base while improving its regulatory compliance and service delivery.

Although TasWater's proposed Price and Service Plan refers to a "capex allowance", the Economic Regulator does not impose a limit on TasWater's capex. Rather, based on its assessment of TasWater's proposed capex, the Economic Regulator arrives at an expected figure that it used to calculate TasWater's MARR for each financial year of the regulatory period. Recognising commitments made to the industry regulators (see Chapter 3), it is therefore up to TasWater to decide how much it should spend and which projects it should invest in. If TasWater spends more than the amount that the Economic Regulator expects, so long as the expenditure is found to be prudent and efficient, the amount expended is included in TasWater's RAB as part of future price determination investigations and TasWater can then receive a return on that expenditure.

To help determine whether TasWater's proposed capex program for the third regulatory period is prudent and efficient, the Economic Regulator considered the reasons and evidence that TasWater provided in support of its capex priorities, and whether TasWater's proposed timeframes for delivery of its capex program are reasonable considering its past capex delivery. This required the Economic Regulator to examine aspects of TasWater's capex program for the second regulatory period, focussing on:

- whether there was a need for TasWater to spend the amounts it did (was its capex prudent?);
- whether TasWater followed the most cost effective approach to achieving its desired outcomes (was its capex efficient?); and
- whether TasWater was able to deliver its capex program consistent with expected timeframes.

To allow it to make an informed judgement on the efficiency and prudency of TasWater's proposed capex program for the third regulatory period, the Economic Regulator required TasWater's proposed Price and Service Plan for the third regulatory period to provide information including:

- annual forecasts of capex for the third regulatory period;
- a breakdown of historical and forecast capex by cost driver;
- explanation and justification of the trend in forecast capex;
- the key assumptions underlying capex forecasts, including any risks; and
- identification of major capex projects proposed for the third regulatory period, providing for each:
    - the project name and scope (including specific outcomes to be delivered, number of customers impacted, and the risk/s being addressed);

- cost category and cost driver;
- estimated start and completion dates; and
- total capital cost and expenditure by year.

The Economic Regulator analysed TasWater's actual and forecast capex in its proposed Price and Service Plan for the third regulatory period to determine whether it was prudent and efficient. The Economic Regulator also engaged Arup to conduct an independent analysis and provide an opinion on TasWater's actual and forecast capex for the second regulatory period and its proposed capex for the third regulatory period. Arup's Draft Report is available on the Economic Regulator's website: www.economicregulator.tas.gov.au under Water/Pricing/Price Determination Investigations.

6.1 TasWater's asset management practices

Arup has noted in its Draft Report that:

> TasWater has made significant progress in the development of its Asset Management Systems in PSP2. The introduction of the AMIP [Asset Management Improvement Plan] in PSP2 provides the organisation with the next steps in its asset management journey.[7]

TasWater's asset management practices are outlined in Sections 6.3.2.1 to 6.3.2.4 inclusive of its proposed Price and Service Plan and are also summarised in Section 2.5 of Arup's Draft Report.

Appendix 6 presents, in diagrammatic form, the various elements of TasWater's asset management system.

6.2 Review of capex for the second regulatory period

TasWater developed its capex program for the second regulatory period using a prioritisation process aligned with its project management framework. This was essentially a continuation of the capex planning practices used by the three regional water and sewerage corporations prior to the formation of TasWater.

Based on TasWater's proposed capex program, the Economic Regulator expected TasWater to spend capex of $330 million during the second regulatory period. TasWater's actual and forecast[8] capex for this period indicates that it will spend $386.4 million, approximately $56.4 million, or 17 per cent, above expectations. TasWater's proposed Price and Service Plan for the third regulatory period explains this additional spending as being due to an increasing need for renewal of assets to meet customer service standards and compliance requirements. Table 6.1 below shows TasWater's expected capex versus its actual and forecast capex for each of the three years of the second regulatory period.

Table 6.1 TasWater's expected and actual/forecast capex for the second regulatory period ($'000s)

	2015-16	2016-17	2017-18	Total for the second regulatory period
TER expectation	100 000	110 000	120 000	**330 000**
Actual/forecast	130 877	121 805	133 697	**386 379**
Change	30 877	11 805	13 697	**56 379**
Change (%)	31%	11%	11%	**17%**

7 Arup, 2017, page 13.

8 Forecast capex for 2017-18.

TasWater also provided figures to the Economic Regulator demonstrating how the major cost drivers of its capex program changed during the second regulatory period and how its expected and actual capex programs related to its various service delivery areas, as shown in Tables 6.2 and 6.3.

Table 6.2 TasWater's expected and actual/forecast capex for the second regulatory period by cost driver ($'000s)

Cost driver	Expected capex	Actual/forecast capex	Change
Compliance	188 260	166 733	-21 527
Improvement	62 858	32 510	-30 348
Renewal	55 231	71 938	16 707
Growth	23 651	115 198	91 547
Total	**330 000**	**386 379**	**56 379**

Table 6.3 TasWater's expected and actual/forecast capex for the second regulatory period by category ($'000s)

Category	Expected capex	Actual/forecast capex	Change
Water	122 073	168 562	46 489
Sewerage	167 718	116 913	-51 805
Dual function	40 208	100 904	60 696
Total	**330 000**	**386 379**	**56 379**

In its review of TasWater's capex for the second regulatory period, Arup noted that TasWater will spend a significant proportion ($100.9 million, or 26 per cent) of its capex on 'dual function' assets, which is 2.5 times more than TasWater originally proposed to spend on these assets. This asset category includes various assets with relatively short lives, including vehicles, supervisory control and data acquisition (SCADA) software, and TasWater's asset management information system (AMIS).

In contrast, TasWater will spend $116.9 million on sewerage assets during the second regulatory period, which is 31 per cent less than proposed. This is due to TasWater deferring $50.8 million sewerage capex in favour of drinking water projects and business systems improvements (including SCADA and AMIS).

In relation to TasWater's investment in SCADA and AMIS during the second regulatory period, while the Economic Regulator recognises that these assets will help to improve TasWater's internal processes and asset management practices, due to their relatively short lifespans they make a considerable impact on regulatory depreciation calculations. The Economic Regulator notes that sewerage assets generally have a much longer life than information technology systems, meaning that the outcome of TasWater's capex prioritisation decisions during the second regulatory period is a greater net increase in TasWater's regulatory depreciation allowance than would have been the case under TasWater's original capex allocation. Chapter 8 provides an analysis of TasWater's regulatory depreciation.

A full list of TasWater's capex projects for the second regulatory period is attached as Appendix 7.

6.2.1 Arup's approach

To analyse TasWater's capex, Arup reviewed five major projects from TasWater's second regulatory period capex program to assess their prudency and efficiency.

The second regulatory period capex projects that Arup reviewed were:

- Cambridge Sewer Emergency Storage;
- Direct to asset opex to capex programs;

- Kingborough Sewerage System Strategy;
- Small Towns Water Supply Strategy; and
- Tolosa Dam Water Supply Upgrade.

Descriptions of each of these projects are provided in sections 3.2.2 to 3.2.6 inclusive of Arup's Draft Report.

The following sections discuss Arup's findings in relation to these projects.

6.2.1.1 Cambridge Sewer Emergency Storage

Arup concluded that this project is prudent, and that there is a genuine need for the work that TasWater is proposing. However, Arup noted the lack of any regional wastewater strategy that includes the Cambridge area, and highlights the possibility that, if such a strategy existed, TasWater's proposed course of action on this project might appear less feasible and efficient. The Economic Regulator acknowledges this issue, while also noting Arup's aside that a regional wastewater strategy would not necessarily come to any different conclusion about how to proceed with the project.

Arup also noted that the timing of this project has changed since its inception, and that TasWater has deferred the proposed completion date for the project by three years.

6.2.1.2 Direct to asset opex to capex programs

Following its analysis of this project, Arup was comfortable that although the expenditure on these programs was relatively large, they have successfully achieved their intended outcomes. Arup noted that TasWater discontinued these programs after 2015-16, and stated that the issues they addressed are unlikely to occur again.

6.2.1.3 Kingborough Sewerage System Strategy

Arup's view is that the intention and rationale behind this project is sound, but noted ongoing delays in delivery of the project. TasWater inherited this project from the regional water and sewerage corporations, who first identified it as a priority in 2009. Arup noted that the preferred course of action for the project has remained essentially the same during both the first and second regulatory periods, apart from the addition of some minor works and regular increases in time and cost estimates.

Arup highlighted that certain aspects of this project have been met with significant community opposition, but that TasWater's proposed course of action appears both efficient and consistent with regulatory compliance expectations.

6.2.1.4 Small Towns Water Supply Strategy

This project is unquestionably important. Arup noted that TasWater needs to provide drinking water that meets relevant quality standards and guidelines in order to satisfy its minimum service obligations. Due to its urgency, TasWater has fast-tracked this project through its standard project planning processes. However, Arup noted that this urgency arises in part from TasWater's lack of investment and strategic planning in its water supply services prior to the second regulatory period.

Arup commented that there are significant variations in TasWater's cost estimates for this project, which could affect TasWater's expected capex for the third regulatory period. Given the obvious importance of the project though, Arup accepted the prudency and efficiency of TasWater's course of action, taking account of the project's overall urgency.

6.2.1.5 Tolosa Dam Water Supply Upgrade

Arup cited this project as a good example of TasWater identifying and implementing lower cost solutions than those proposed in its original project planning for the second regulatory period. TasWater's current expected total capex on this project is $13.7 million, well below its original cost estimate of $23.9 million.

Arup commented that it had difficulty determining how much of the work for this project TasWater has completed, due to contradictions between the documentation provided to them by TasWater and the information available on TasWater's public website. Arup suggests that TasWater take more care to keep its website up to date on major project progress to improve its public transparency. The Economic Regulator supports this suggestion.

6.2.1.6 Arup's findings - second regulatory period

Arup noted a number of capex governance improvements made by TasWater during the second regulatory period that led to prudent and efficient outcomes, including the development of its LTSP.

In general, Arup found that TasWater's capex during the second regulatory period appears to be prudent, but that it was hard to judge the efficiency of the projects without a better understanding of how each project fits into TasWater's long-term strategic planning and any relevant regional water and sewerage strategies. In addition to this issue, Arup noted that a significant proportion of TasWater's capex projects during the second regulatory period experienced delays and cost overruns. This again noted TasWater's project management practices. As outlined in Chapter 3, Tasmanian water and sewerage technical regulators are also concerned about TasWater's ability to deliver on its project commitments. In this regard, Arup noted that:

> While [its] interview process identified a number of significant areas in which capex governance improvements during the early part of PSP2 have led to prudent and more efficient outcomes, improvements are needed by TasWater in timely project delivery, on budget and on time, and project status against targets needs to be clearly documented by TasWater to justify the ex-post review of actual capex outcomes for PSP3.[9]

As discussed in Chapter 3, the Economic Regulator therefore intends requiring TasWater to provide an annual report to all industry regulators detailing its progress and the expected completion dates for all current projects as a way of incentivising TasWater to improve its project delivery performance. For convenience, the Economic Regulator proposes adding this report to the annual *Tasmanian Water and Sewerage State of the Industry Report* and amending the *Tasmanian Water and Sewerage Industry Performance and Information Reporting Guideline* to include this reporting requirement in the future.

The Economic Regulator intends to accept that TasWater's capex during the second regulatory period was prudent and efficient.

[9] Arup, *Review of the Tasmanian Water and Sewerage Corporation's Operating and Capital Expenditure, Draft Report*, 27 October 2017, page 16.

6.3 Review of proposed capex for the third regulatory period

TasWater has based its proposed capex program for the third regulatory period on the outcomes from its customer and stakeholder consultation process (discussed in Chapter 2) and the priorities identified in its LTSP. The Economic Regulator views this as a considerable improvement on the method and rationale that TasWater used to develop its capex program for the second regulatory period, noting that TasWater is making a greater effort to align its capex program with overall business priorities and customer expectations.

Figure 6.1 below summarises TasWater's proposed capex program for the third regulatory period, and compares it with the second regulatory period.

Figure 6.1 Comparison of TasWater's capex for the second and third regulatory periods ($ million)

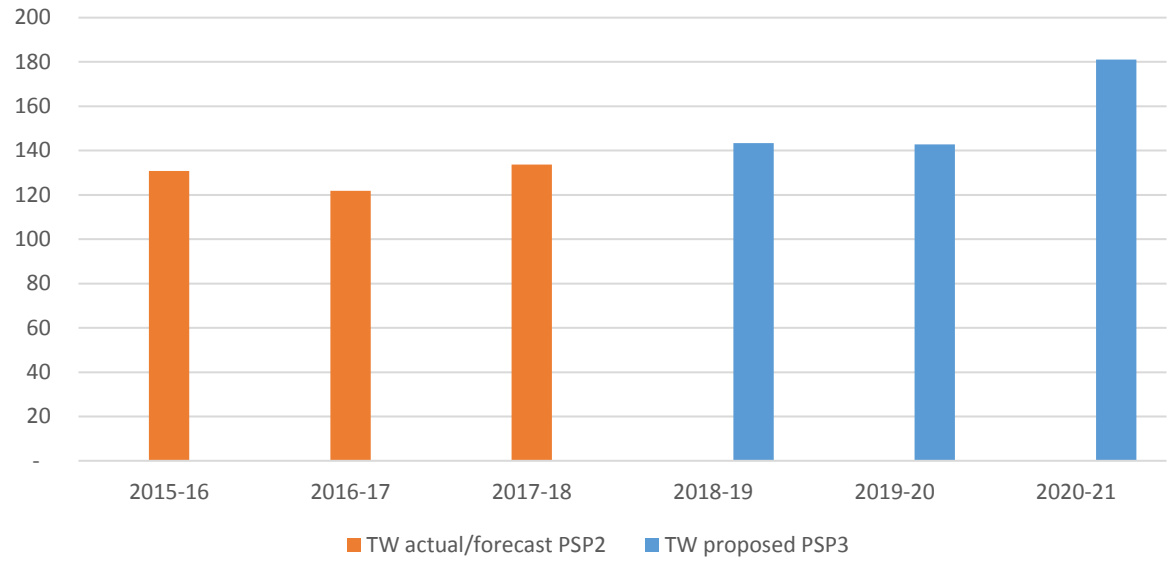


Table 6.4 provides a summary of TasWater's proposed capex for the third regulatory period by primary cost driver.

Table 6.4 TasWater's forecast capex for the third regulatory period by cost driver ($'000s)

Year	2018-19	2019-20	2020-21	Total
Growth	1 078	-	-	1 078
Renewal	23 328	21 739	22 869	67 936
Compliance	96 881	103 367	142 051	342 299
Improvement	22 074	17 630	16 156	55 861
Capex total	143 362	142 736	181 076	467 175

A full list of TasWater's capex projects for the third regulatory period is attached as Appendix 8.

Arup highlights a significant change in TasWater's capex program focus between the second and third regulatory periods. This will lead to a much greater focus on projects aimed at improving TasWater's regulatory compliance, particularly in relation to wastewater, and a reduction in focus on asset growth and renewal projects (compare Table 6.4 and Table 6.2). As part of this change, TasWater has reprioritised several of the projects identified through its LTSP Optimisation Model. Arup noted that some historically low priority projects that have recently become high priority projects do not currently have sufficient concept designs, options analysis and business case development to allow them to progress prudently and efficiently. In Arup's view, this reinforces the urgency for TasWater to further improve its project planning and management practices.

6.3.1 Arup's approach - third regulatory period

Similar to its approach to analysing TasWater's capex for the second regulatory period, Arup reviewed nine major projects from TasWater's proposed third regulatory period capex program to assess their prudency and efficiency. The third regulatory period capex projects that Arup reviewed were:

- Bryn Estyn Water Treatment Plan Upgrade;
- Facility, Fleet and Plant Renewals;
- Forth Water Treatment Plant Upgrade;
- Non-network IT Upgrades;
- Pardoe Sewer;
- Pet Dam Upgrade;
- System Control and Data Acquisition Renewals Program;
- Sewage Treatment Plant Renewals Program; and
- Water Network Renewals Program.

Descriptions of each of these projects are provided in sections 3.3.2 to 3.3.10 inclusive of Arup's Draft Report.

The following sections discuss Arup's findings in relation to these projects.

6.3.1.1 Bryn Estyn Water Treatment Plant Upgrade

Arup noted that this project is at a relatively early stage of development, and that TasWater's progress on this project will depend on its long-term plans for water supply to the Greater Hobart area. Depending on TasWater's long-term strategic decisions, the current courses of action under consideration for the Bryn Estyn project could change considerably. The Economic Regulator notes that this is a very large project. TasWater estimates that it will cost over $108 million, and it is not due for completion until the first year of the fourth regulatory period (2021-22). The size and timing of the project provide significant scope for TasWater to change its proposed course of action during the project's lifetime, lending strength to Arup's observation.

While acknowledging the level of uncertainty surrounding the timing and likely outcomes of this project, Arup notes that it is reasonable for the Economic Regulator to accept TasWater's current capex profile for the project, as outlined in its proposed Price and Service Plan for the third regulatory period.

6.3.1.2 Facility, Fleet and Plant Renewals

The only one of TasWater's proposed projects for the third regulatory period that Arup raised significant concerns about was the Facility, Fleet and Plant Renewals project. Arup noted that according to information provided by TasWater, it currently has one vehicle for every 1.2 FTE staff. The 2015 WSAA Benchmarking Study[10] found that the average ratio of vehicles to staff in Australian water and sewerage utility providers is 1:3.

Arup therefore recommends that TasWater aim to reduce its vehicle to staff ratio to at least 1:2 during the third regulatory period. Arup estimates that reducing the actual size of the fleet by 40 per cent (from 760 vehicles to 456 vehicles) would result in a reduction in TasWater's capex by $4.0 million during the period.

Table 6.5 shows Arup's recommended adjustments to TasWater's Facility, Fleet and Plant Renewals capex.[11]

Table 6.5 Summary of facility, fleet and plant renewals capex for the third regulatory period ($'000s)

Facility, Fleet and Plant Renewals	2018-19	2019-20	2020-21	Total
TasWater	4 686	4 369	4 480	13 535
Arup	2 999	2 796	2867	8 662
Proposed adjustment	**-1 687**	**-1 573**	**-1 613**	**-4 873**

The Economic Regulator intends to accept Arup's recommendation. In relation to Facility, Fleet and Plant capex.

The Economic Regulator intends to require TasWater to reduce its proposed Facility, Fleet and Plant Renewals capex, as set out in Table 6.5.

6.3.1.3 Forth Water Treatment Plant Upgrade

Arup noted that this is a high priority project, and that although it is still in the planning stage TasWater has allocated significant resources to the project.

As with the Bryn Estyn project discussed in section 6.3.1.1, Arup is of the view that TasWater's progress on this project will depend on its long-term plans for water supply to the Greater Devonport and/or Greater Launceston areas. It is possible that once TasWater has decided on its strategic approach to water supply across the larger regions that it will reassess the Forth project, which could lead to deferment of works or to changes in costs and timing. This in turn could potentially affect the prudency and efficiency assessment for this project.

[10] Water Services Association of Australia, *2014/15 Opex Benchmarking Study, Industry Report*, December 2015 (version 0.17).

[11] Arup, 2017, page 43.

6.3.1.4 Non-network IT Upgrades

This project has the goal of both supporting TasWater's existing business operations and improving efficiency and productivity.

Arup noted that this project does not receive a high priority rating under TasWater's LTSP-based prioritisation model, as the LTSP model focuses primarily on improving drinking water quality and overall compliance. Arup also noted that will be difficult to assess the prudency and efficiency of this project until the fourth regulatory period, when its outcomes can be compared against the objectives of an IT strategy that TasWater intends to implement from December 2017 onward.

6.3.1.5 Pardoe Sewer

Arup noted that about 60 per cent of the effluent treated by the Pardoe plant comes from non-residential sources, including large trade waste customers, and that despite being in its early stages TasWater has given this project a high priority.

The project documentation that TasWater provided for this project is lacking in options analysis, with only one potential course of action properly assessed and costed. Arup commented that it is clear TasWater will need to conduct further options and costing analysis during the later stages of this project to refine the process and ensure that the capex is prudent and efficient.

6.3.1.6 Pet Dam Upgrade

The Pet Dam is a key component of the Burnie water supply system. Arup judges that this project is essential to ensure that the dam meets legislated safety requirements, and that since TasWater has identified the dam as a high-risk asset this capex appears to be prudent.

Arup noted that the capex appears efficient, as TasWater has decided to follow the lowest cost course of action to address the dam's safety issues.

6.3.1.7 System Control and Data Acquisition Renewals Program

Arup noted that TasWater has a long-term vision of creating a 'smart' water and sewerage network that is manageable using real-time data. TasWater's SCADA capex is an important component of realising this vision.

TasWater has prepared a thorough business case for this project that includes options and risk analyses as well as implementation strategies. Arup noted, however, that TasWater's current cost estimates for the project are unclear, as the figures in the business case do not match some of the figures that TasWater provided to Arup on request. Additionally, Arup noted that the business case includes cost breakdowns for the project but contains no information about the potential timing for TasWater's proposed capex delivery.

6.3.1.8 Sewage Treatment Plant Renewals Program

This project focuses on delivering ongoing environmental compliance improvements for TasWater and mitigating risks of customer service failure. Arup points to a problem in prioritising capex investment in this project, given that:

> TasWater notes that its ability to identify projects based on LoS [Level of Service], asset criticality, asset condition or performance is limited by data accuracy and availability.[12]

The Economic Regulator therefore expects that TasWater's ability to identify capex priorities for this project will improve during the third regulatory period in line with the quantity and quality of data collected by its new AMIS and SCADA software.

6.3.1.9 Water Network Renewals Program

TasWater's has developed a budget for the ongoing project of repairing and replacing its water mains that allocates:

- 70 per cent of the budget to proactive water main renewal (ie repairing or replacing old or damaged water mains before they fail);
- 25 per cent to reactive water main renewal (ie repairing or replacing water mains in response to failures); and
- 5 per cent to water main condition assessment (ie determining the risk of failure for particular water mains).

Arup raises concerns about how TasWater has calculated this budget, and questions how closely TasWater can realistically adhere to the budget split given the minimal control it has over reactive maintenance capex.[13]

6.3.2 Arup's findings - third regulatory period

Arup found that TasWater's proposed capex for the third regulatory period largely appears prudent and mostly aligns with the priorities set out in TasWater's LTSP. However, Arup again commented on the difficulty of assessing the efficiency of certain projects without having any information about how they relate, or will relate, to TasWater's longer-term regional water and sewerage strategies. As discussed in Chapter 3, in response to the concerns of Arup and the Tasmanian water and sewerage technical regulators, the Economic Regulator intends to require TasWater to justify its proposed capex for the fourth regulatory period in the context of such long-term strategies that will allow it to achieve full regulatory compliance and operational efficiencies.

Arup also noted that much of TasWater's capex during the third regulatory period will be devoted to completing projects begun during the second regulatory period.[14]

To avoid repetition of this situation in future regulatory periods, Arup recommends that TasWater accelerate its capex project delivery through an intensive focus on its internal processes and project governance, and by engaging external contractors where appropriate to help reduce capex delivery times.

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[12] Arup, 2017, page 57.

[13] Arup, 2017, page 60.

[14] Arup, 2017, page 16.

The Economic Regulator notes that TasWater has assigned 73 per cent of its proposed capex during the third regulatory period to compliance improvement projects, and therefore agrees it is critical that TasWater can deliver its capex program in a timely manner, with reference to long-term strategic planning and any related regional water and sewerage strategies.

6.4 Other matters

6.4.1 Capex constraints

In response to questions from the Economic Regulator, TasWater explained that, for the third regulatory period, it has placed a constraint on its capex based on the price increases that customers are willing to accept according to its customer engagement activities, and its decision on its interest cover ratio (ICR).[15]

In relation to its ICR, TasWater commissioned Bancorp Corporate Finance Limited to conduct:

> …a benchmarking study of the Australian water utilities industry to assist in determining an appropriate level of borrowing to support growth as set out in the Company's long term financial management plan.[16]

Bancorp found that relative to comparable water and sewerage utilities (that is, those with greater than $1 billion equity), while TasWater has a relatively low debt to equity, its revenue does not exceed its expenses by a very large margin, resulting in a comparable ICR to other providers.

In particular, the Economic Regulator notes that, for the last four financial years, TasWater's expenses have consistently made up about 80 per cent of its revenue. For comparison, Sydney Water's expenses made up about 60 per cent of its revenue in 2013-14 (TasWater: 78 per cent for 2013-14).

A comparison of revenue, expenses, borrowings, interest expense and ICR for TasWater and a selection of mainland water and sewerage service providers is shown in Table 6.6.

Table 6.6 Comparison of utilities' revenue, expenses, borrowings, interest expense and ICR for 2013-14

Entity	Revenue $m	Other Expenses $m	Expenses to revenue %	Revenue less expenses $m	Interest Expense $m	Borrowings $m	ICR
TasWater	274	215	79	59	20	247	2.9
Barwon	198	148	75	50	39	534	1.3
Sydney	2 615	1 561	60	1 054	414	6 233	2.5
SA Water	1 382	872	63	510	225	3 677	2.3
Yarra Valley	989	803	81	186	120	1702	1.5

TasWater has selected the median ICR (two) of the 29 utilities that were benchmarked in Bancorp's study. However, the Economic Regulator notes that the median ICR for those utilities with more than $1 billion in equity was 2.2. Understanding that TasWater's Board has decided that TasWater's ICR should be maintained above two, the Economic Regulator notes that TasWater's ICR has ranged from 2.88 to 3.43 between 2013-14 and 2015-16 and, for 2016-17, was 2.79.[17] The Economic Regulator

[15] An entity's ICR (Revenue less expenses divided by net interest expense) measures whether the entity can meet the interest expenses on its borrowings. All other things being equal, a relatively higher ICR means that the entity can meet its commitments.

[16] Bancorp Corporate Finance Limited, *TasWater Benchmarking Study*, August 2015, page 2.

[17] TasWater's 2016-17 Annual Report.

further notes that the outputs from TasWater's LTSP Optimisation Model have been based on a target ICR assumption of 2.0.

The Economic Regulator recognises that its role does not extend to recommending changes to TasWater's ICR. However, as noted in Chapter 3, the Economic Regulator considers that the development of long-term strategies that will deliver efficiencies through plant rationalisation (as well as improve regulatory compliance outcomes) is one way of putting downward pressure on TasWater's expenses. This action, all other things being equal, would result in the gap between TasWater's revenue and expenses increasing.

In its recent performance audit, the Tasmanian Audit Office (TAO) found that:

- There has been an improved capacity to service debt and meet debt repayment requirements since 2009 as evidenced by:
  - a strong interest cover ratio exceeding the target set in corporate plans and the long-term 10-year financial plan
  - low debt to total assets and debt to equity ratios demonstrating capacity to increase borrowings and fund infrastructure investment
- An appropriate level of debt funding has not been utilised since 2009 as more capital expenditure could have been funded by debt to improve compliance with environmental standards for wastewater as outlined in Section 1.2
- There has been a better capacity to manage debt since 2013.[18]

The TAO recommended that "TasWater investigates the acceleration of infrastructure investment by utilising additional debt funding."[19]

In its draft report Arup noted that:

> During the interview process TasWater indicated that it sought to operate within a capital constraint limited by its approved budget. The budget limits appear to be set through Board consideration of a balance of issues including, the large investment required to catch up with prior under investment (particularly related to meeting technical compliance requirements), the potential for adverse impacts on service price increases on customers, and the *"commercially prudent level of debt"* supported on its balance sheet for operation of the business.[20]

and

> While the prioritisation process is important in determining the range of projects that will be completed, the capital constraint adopted by the TasWater Board for the total capital expenditure level during the regulatory period, has more influence over the delivery of customer outcomes. Arup notes the Economic Regulator does not set a limit on the capital expenditure level during the regulatory period.[21]

[18] Tasmanian Audit Office, *Water and sewerage in Tasmania: assessing the outcomes of industry reform*, 14 November 2017, page 87.

[19] Ibid, page 87.

[20] Arup, 2017, page 4.

[21] Ibid, page 12.

The Economic Regulator acknowledges that the lending criteria set by TasCorp, as TasWater's lender, ultimately determines how much TasWater is able to borrow. However, the internal constraint that TasWater's Board places on TasWater's borrowings via the ICR has an impact on TasWater's capex and, ultimately, pricing. Capex that improves regulatory compliance has the potential to increase TasWater's opex and decrease its ICR. If TasWater maintains its current levels of capex, this will place increased pressure on pricing.

The Economic Regulator's view is that to minimise future price increases, maintain capex levels and achieve its target ICR, TasWater will need to achieve opex savings through operational efficiencies and plant rationalisation. This means that TasWater should be prioritising capex that achieves both regulatory compliance improvements and operational efficiencies, and will require long-term strategies that identify such capex opportunities.

6.4.2 Gifted assets

TasWater's expected regulated capex for the third regulatory period is net of gifted assets[22]. TasWater confirmed that it does not expect to receive any gifted assets during the third regulatory period. The Economic Regulator queried the absence of gifted assets as, between 2013-14 and 2016-17, TasWater received gifted assets to the value of between $9.1 and $26.3 million a year. In response, TasWater explained that the value of gifted assets is highly variable from year to year and is therefore difficult to predict, and that TasWater's promotion of infill development will put downward pressure on the number of gifted assets over time.

The Economic Regulator acknowledges that, while promoting infill development over new subdivisions will reduce the value of gifted assets, this will not remove gifted assets altogether as there will continue to be gifted assets relating to subdivisions.

Based on information provided by TasWater, the Economic Regulator considers that it would be appropriate to base the value of gifted assets for the third regulatory period on the value of those assets for 2016-17, approximately $10 million per annum. The Economic Regulator therefore intends to require that TasWater reduce its proposed capex for the third regulatory period by $10 million per annum to account for gifted assets.

The Economic Regulator intends to reduce TasWater's expected capex for the third regulatory period by $10 million per annum to account for gifted assets.

6.4.3 Recognition of capex in the RAB

Under the existing regulatory accounting arrangements, TasWater is able to roll any new capex assets into its RAB as soon as construction of those assets begins. This means that TasWater could be receiving a return on those assets and claiming a regulatory depreciation allowance on an asset for some time before it becomes operational. This arrangement provides little incentive for TasWater to complete capex projects, and particularly since Arup has observed "…improvements are needed by TasWater in timely project delivery, on budget and on time…"[23]

[22] Gifted assets relate to assets constructed by developers that are then "gifted" to TasWater once the development has been completed. TasWater is not permitted to receive a return on these assets as customers/developers have already paid for the asset.

[23] Arup, 2017, page 16.

To incentivise TasWater to complete its capex projects more quickly, the Economic Regulator is seeking stakeholder feedback on the concept of new capex not being added to TasWater's RAB until the asset has been commissioned. This would be consistent with current practice in some other jurisdictions and the current treatment of capex for statutory accounting purposes.

To provide a guide as to the likely impact on TasWater's if this concept was implemented, the Economic Regulator has analysed TasWater's proposed capex projects for the third regulatory period by removing annual capex scheduled on projects not expected to be completed in a particular year. For example, if TasWater expected to complete a project in 2019-20 any capex relating to that project for 2018-19 would be removed from the expected capex for 2018-19, and would not be taken into account for regulatory purposes until 2019-20 along with any additional 2019-20 capex. Further, all capex relating to a project not expected to be completed during the third regulatory period would be excluded from the Economic Regulator's expected capex for the period. Implementation of this change would also have an impact on TasWater's regulatory depreciation.

If this concept were implemented, the Economic Regulator would reissue its Ring Fencing Guideline to require TasWater's regulatory financial statements to recognise assets on commissioning for the purpose of those statements. The Economic Regulator realises that delaying the recognition of assets in the RAB until their commissioning would require the addition of an interest during construction (IDC) component to the value of the asset in the RAB.[24]

The likely impact of this change on TasWater's expected capex and regulatory depreciation is shown in Tables 6.7 and 6.8 respectively. Readers should note that, as the Economic Regulator has not yet decided how it would recognise IDC under this scenario, the figures in these tables are based only on TasWater's unmodified proposed capex for the third regulatory period.

Table 6.7 Impact on capex of recognising capex on commissioning for the third regulatory period ($'000s)

	2018-19	2019-20	2020-21	Total
TasWater proposed PSP	143 000	143 000	181 000	467 000
Economic Regulator	91 000	93 000	145 000	329 000
Indicative adjustment	**-52 000**	**-50 000**	**-36 000**	**-138 000**

Table 6.8 Impact on regulatory depreciation of recognising capex on commissioning for the third regulatory period ($'000s)

	2018-19	2019-20	2020-21	Total
TasWater proposed PSP	37 000	42 000	47 000	126 000
Economic Regulator	36 000	39 000	43 000	118 000
Indicative adjustment	-1 000	-3 000	-4 000	-8 000

[24] Under Accounting Standard AASB 123 Borrowing Costs, borrowing costs that are directly attributable to the acquisition, construction or production of a qualifying asset form part of the cost of that asset. This compensates the entity for the opportunity cost of funds spent on a project that is not yet generating any revenue.

As shown in Table 6.7, recognising assets on commissioning significantly reduces TasWater's expected capex for the third regulatory period relative to TasWater's proposed capex. This, in turn, would reduce TasWater's maximum regulated revenue. This suggests that TasWater's customers could end up paying higher prices during the third regulatory period relative to the situation that would apply if assets were recognised on commissioning. Based on TasWater's past project delivery performance, it is also possible that the additional revenue that would flow from a higher expected level of capex, and associated higher revenue and prices, would not go towards delivering the regulatory compliance improvements that TasWater has agreed with the industry regulators. TasWater may instead use it for other purposes (including lower priority capex). It should be noted that, if assets were recognised on commissioning, this does not place a cap on TasWater's actual capex, as is currently the case. TasWater's capex expenditure is not constrained by the Economic Regulator and, provided the capex is found to be prudent and efficient, then TasWater is able to receive a return on that expenditure.

The Economic Regulator's recognition of assets concept, in conjunction with the associated proposal to expand reporting of the status of TasWater's capex program during the third regulatory period, would have the objective of incentivising TasWater to deliver agreed capex projects on time. It should also incentivise TasWater to deliver capex projects on budget, given that the price determination investigation for the fourth regulatory period will include a capex efficiency review.

6.5 Economic Regulator's draft proposals

The Economic Regulator intends to reduce TasWater's expected capex for the third regulatory period, as set out in Table 6.9.

Table 6.9 TasWater's capex for the third regulatory period ($'000s)

	2018-19	2019-20	2020-21	Total
TasWater's proposed capex	143 362	142 367	180 886	466 616
Arup's reductions	- 1 687	- 1 573	- 1 613	- 4 873
Economic Regulator's proposed reductions	- 10 000	- 10 000	- 10 000	- 30 000
Economic Regulator's expected capex	131 675	130 795	169 273	431 743

The Economic Regulator intends to reduce TasWater's expected capex for the third regulatory period, as set out in Table 6.9.

The Economic Regulator seeks stakeholder feedback on the concept of recognising assets on commissioning, as set out in Section 6.4.3.

7 OPERATING EXPENDITURE

Operating expenditure (opex) refers to TasWater's costs of operating and maintaining its water and sewerage systems, together with any associated administrative costs.

The Economic Regulator expects that TasWater's opex will be efficient and relevant to customer and regulatory requirements. Opex is a key building block component and the calculation of TasWater's statutory revenue limits for the third regulatory period will include an allowance for reasonable and efficient opex (see Chapter 11).

7.1 Economic Regulator's requirements

To allow the determination of appropriate opex values for the third regulatory period, the Economic Regulator required TasWater to report its actual and forecast opex during the second regulatory period, and its forecast opex for the third regulatory period, according to the framework set out in the Ring Fencing Guideline.

Relevant to opex, the Economic Regulator required TasWater's proposed Price and Service Plan for the third regulatory period to:

- report all opex in accordance with the framework outlined in the Ring Fencing Guideline;
- provide actual annual opex for past years and annual forecasts for opex for the third regulatory period;
- clearly identify and justify the basis for allocating opex between regulated water and sewerage services and between labour and non-labour components;
- detail the net savings derived from, or the net costs incurred in, providing re-use water to external parties;
- identify and justify the value of the proposed annual labour productivity factor;
- identify, quantify and justify any forecast significant changes in labour or non-labour opex (for example, due to additional facilities or functions) in the context of the drivers for those changes;
- outline the fixed and variable costs of delivering water to customers' properties;
- identify and justify the basis for excluding (unregulated assets) expenditure in determining the value of the assets excluded from the RAB;
- explain the trend in forecast opex having regard to:
    - historic opex;
    - changes in service obligations and targets;
    - scope for efficiency improvement;
    - changes in opex by cost category;
    - trends in input prices;

  - forecast demand;
  - proposed capital works; and
- highlight any other relevant factors including key assumptions underlying the opex forecasts, any risks to those forecasts and how these uncertainties have been addressed.

7.2 Approach to opex review

Following TasWater's submission of its proposed Price and Service Plan for the third regulatory period, the Economic Regulator analysed TasWater's actual and forecast opex to determine whether it was appropriate and efficient. The Economic Regulator engaged Arup to conduct an independent analysis and provide an opinion on the efficiency of TasWater's opex.

Arup reviewed TasWater's actual, forecast and proposed opex and decided to examine, by value, the top six opex items:

- Salaries;
- Materials and Services;
- Electricity;
- Chemicals;
- Facility Management; and
- Information Systems.

Together, these items make up almost 85 per cent of TasWater's annual opex.

Readers should note that the figures in Arup's Draft Report[25] relate to total opex (regulated opex plus unregulated opex) whereas the Economic Regulator's proposals relate only to regulated opex (regulated opex is 96 per cent of total opex).

7.3 Review of second regulatory period opex

Across the second regulatory period, TasWater is expected to have an opex overspend, relative to the Economic Regulator's calculation of TasWater's regulated opex, of between nine and 12 per cent. TasWater expected its second regulatory period opex to benefit from a number of productivity gains following the merger of the three regional water and sewerage corporations and completion of several additional projects aiming to improve TasWater's overall business efficiency. The primary reasons offered by TasWater for its second regulatory period opex overspend are unforeseen increases in staff numbers and chemical costs.

Table 7.1 and Figure 7.1 below compare TasWater's actual (2015-16) and forecast (2016-17 and 2017-18) opex for the second regulatory period with:

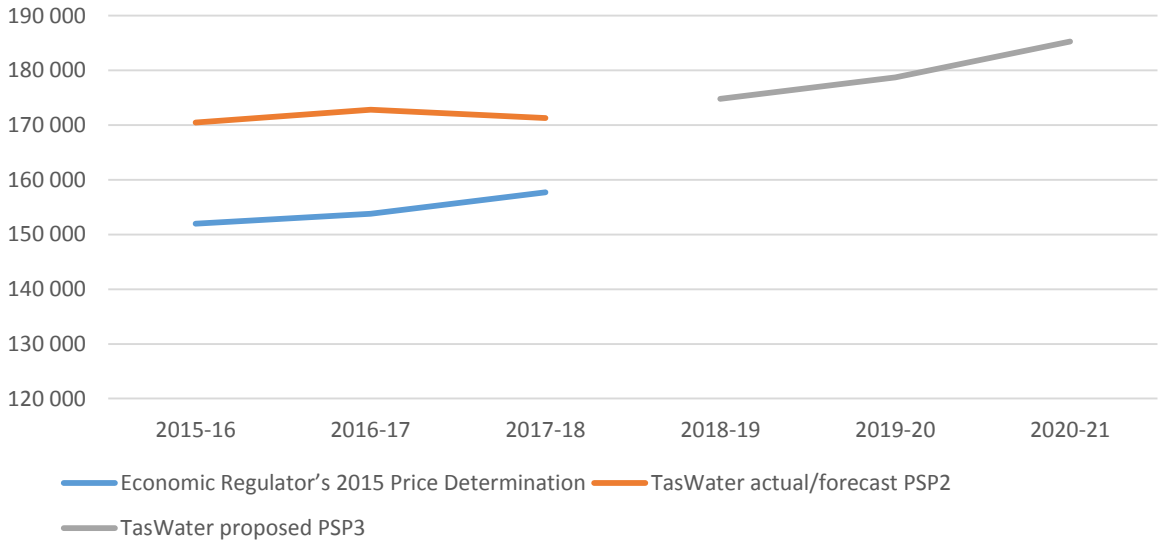
- the opex approved by the Economic Regulator for the second regulatory period; and
- TasWater's proposed opex for the third regulatory period.

[25] Arup's Draft Report is available on the Economic Regulator's website www.economicregulator.tas.gov.au.

Table 7.1 TasWater's regulated opex ($000s) (nominal)

Opex	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21
	Second regulatory period			Third regulatory period		
Economic Regulator's 2015 Price Determination	151 992	153 820	157 700			
TasWater actual/forecast	170 462	172 816	171 268			
Overspend	18 470	18 996	13 568			
TasWater proposed				174 781	178 691	185 260

Figure 7.1 Comparison of TasWater's opex for the second and third regulatory period ($000s)



Arup's analysis concluded that the size of this overspend has fallen marginally in 2016-17 and will likely continue to fall in 2017-18. Arup suggests that the Economic Regulator treat these reductions in overspend as minimum levels of productivity improvement when calculating TasWater's opex for the third regulatory period.[26]

Arup noted that the 2015 Water Services Association of Australia Benchmarking Report clearly indicates that TasWater's operating costs are significantly higher than those of its interstate counterparts. In this regard, Arup noted that:

[26] Based on the information contained in TasWater's Statutory Financial Statements, TasWater's regulated opex for 2016-17 was approximately $171.5 million compared to a forecast of $172.816 million. This indicates that TasWater was delivering productivity savings through to 30 June 2017 as suggested by Arup.

> TasWater anticipates that its opex will increase as it tries to improve compliance levels, however this can have a magnified effect on opex if TasWater is seeking to improve compliance across the large number of assets it owns and operates. This poor performance in comparison to its counterparts as well as the necessity to improve compliance suggests that a consolidation of assets is essential to reduce TasWater's opex average costs and improve its benchmarks against its peers.[27]

The need for TasWater to consolidate its assets is discussed further in Chapters 3 and 6 of this Draft Report.

Relevant to TasWater's opex overspend for the second regulatory period, Arup's Draft Report recognises that TasWater's approved opex was based on opex levels from the first regulatory period and factored in a number of productivity initiatives that were expected to arise from the merging of the regional water and sewerage corporations. Efficiencies were also expected to be realised from a range of other initiatives including processes and systems. In summary, numerous assumptions and judgement calls were made in deriving these past opex allowances and it could not be said that past opex allowances have been as robust as the Economic Regulator would have liked.

Arup concluded that TasWater's opex during the second regulatory period was prudent, noting TasWater's hiring of 17 temporary staff, rather than employing permanent staff, during implementation of the Maximo[28] system and contractor safety training during 2015-16 as an example. Arup views this as prudent opex because the temporary roles cease on completion of their particular tasks, leaving TasWater with a reduced salary burden as well as the benefits of increased productivity. Arup raised some concerns that TasWater's approach of hiring temporary staff to deliver key projects does not yet appear to be delivering the opex savings it should, but noted that many of the projects in question are ongoing or only recently completed. Evidence of continuing reductions in TasWater's temporary FTEs following the completion of productivity improvement projects would confirm the prudency of this approach.

Arup has not proposed any adjustments related to TasWater's second regulatory period opex and accepts the rebasing of opex for the third regulatory period based on TasWater's proposed Price and Service Plan.

Considering Arup's analysis and acknowledging the concerns about the robustness of past opex allowances as explained above, the Economic Regulator does not intend to adjust TasWater's proposed opex for the third regulatory period based on its opex during the second regulatory period.

The Economic Regulator intends to accept TasWater's rebasing of its opex for the third regulatory period. The Economic Regulator does however intend to propose reductions in TasWater's opex and to impose further opex efficiencies for the third regulatory period (see Sections 7.6 and 7.8 below).

The Economic Regulator <u>does not intend to adjust</u> TasWater's proposed opex for the third regulatory period based on its opex during the second regulatory period.

The Economic Regulator <u>intends to accept</u> TasWater's rebasing of its opex for the third regulatory period.

[27] Arup Pty Ltd, Review of the Tasmanian Water and Sewerage Corporation's Operating and Capital Expenditure, Draft Report, 27 October 2017, page 79.

[28] Maximo is a software package designed by IBM that businesses can use to track the operation, maintenance and disposal of assets.

7.4 Base year for third regulatory period opex forecasting

The establishment of TasWater's base year opex for the third regulatory period allows the Economic Regulator to assess the accuracy of TasWater's opex forecasting, and provides a reference point against which to measure any proposed changes to TasWater's future opex.

TasWater has used 2016-17 as the base year for its opex forecasting, as required by the PSP Guideline. At the time of submitting its proposed Price and Service Plan for the third regulatory period, TasWater did not have actual opex figures for the full 2016-17 year. TasWater has therefore established its base year opex values by taking actual opex from 2015-16 and applying it to 2016-17 opex spending patterns. This involved:

- removing any one-off or non-recurring opex from 2015-16, but including any one-off or new opex for 2016-17;
- removing any costs related to productivity improvements between 2015-16 and 2016-17;
- increasing those costs that tend to increase predictably in line with demand;
- adjusting opex to account for maintenance of any new assets added through the capex program; and
- applying appropriate escalation factors to each component of the 2015-16 opex.

At a high level, the Economic Regulator considers TasWater's approach to be sound.

Table 7.2 below summarises TasWater's calculation of its base year opex for the third regulatory period.

Table 7.2 TasWater's base year total opex[29] ($'000s)

Opex category	2015-16 actuals	One-off Adjustments	Productivity savings	Change in demand	New capex	Escalation	2016-17 base year
Salaries	86 643	-	-991	158	-	1 716	87 526
Materials and services	31 371	-	-732	137	-	-576	30 200
Chemicals	7 890	700	-56	53	-	431	9 018
Power	11 908	-	-1 168	57	-	3 429	14 226
Royalties	2 527	-	-	-	-	32	2 559
Facility management	7 074	-	-	2	-	50	7 125
Information systems	4 426	89	-	1	-	-14	4 502
Administration other	5 063	-	-513	1	-	118	4 670
Motor vehicle	3 661	-	-	4	-	23	3 689
Water sampling	3 524	-754	-	1	-	19	2 790
Consultancy	5 465	-	-	2	-	38	5 505

[29] Total opex is comprised of regulated opex plus unregulated opex.

Opex category	2015-16 actuals	One-off Adjustments	Productivity savings	Change in demand	New capex	Escalation	2016-17 base year
Regulatory costs	2 573	-	-	-	-	45	2 618
Customer collection	2 750	-	-	17	-	19	2 787
Insurance	1 500	-	-	-	-	35	1 535
Governance	1 076	-41	-	1	-	7	1 044
Community relations	309	106	-	0	-	3	418
Total	**177 762**	**100**	**-3 460**	**434**	**-**	**5 377**	**180 212**

As Table 7.2 shows, TasWater's base year total opex is expected to be approximately $180.2 million. The Economic Regulator has reviewed TasWater's 2016-17 Annual Report and notes that TasWater did incur this approximate level of opex. As TasWater's method of calculating its base year opex is similar to the method used by other Australian water and sewerage utility providers, and as TasWater's actual opex for 2016-17 was similar to its proposed base year opex, the Economic Regulator intends to accept TasWater's proposed base year opex.

The Economic Regulator intends to accept TasWater's proposed base year opex for the third regulatory period.

7.5 Forecast opex for the third regulatory period

Using 2016-17 as a base year, and applying similar adjustments for escalations, one-off costs, productivity improvements, changes in demand, capex changes and changes to service standards, TasWater forecasts that its regulated opex will increase from $170.5 million in 2015-16 to $185.3 million in 2020-21, the final year of the third regulatory period. TasWater notes that this equates to an average annual increase in opex of roughly 2.4 per cent, below the Reserve Bank of Australia (RBA) mid-range CPI target.

Table 7.3 below shows TasWater's actual and forecast total regulated opex for the second and third regulatory periods.

Table 7.3 TasWater's total regulated opex for the second and third regulatory periods ($'000s)

Opex category	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21
	Second regulatory period			Third regulatory period		
Salaries	83 068	83 914	82 651	82 552	84 273	86 279
Materials and services	30 059	28 937	26 990	28 865	30 258	32 108
Chemicals	7 574	8 657	9 146	9 726	10 274	10 853
Power	11 431	13 657	14 315	13 629	12 502	13 407
Royalties	2 426	2 456	2 506	2 562	2 620	2 685
Facility management	6 769	6 819	6 417	6 537	6 670	6 847
Information systems	4 249	4 322	4 395	4 468	4 540	4 611
Administration other	4 861	4 483	4 269	4 390	4 515	4 652
Motor vehicle	3 515	3 541	3 746	3 959	3 989	4 019

Opex category	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21
	Second regulatory period			Third regulatory period		
Water sampling	3 383	2 678	2 421	2 466	2 517	2 583
Consultancy	5 247	5 285	5 355	5 454	5 565	5 713
Regulatory costs	2 470	2 514	3 170	2 628	2 687	3 397
Customer collection	2 640	2 675	2 528	2 606	2 674	2 760
Insurance	1 440	1 474	1 508	1 541	1 574	1,606
Governance	1 033	1 002	1 055	1 116	1 098	1,127
Community relations	296	401	797	775	768	782
Change in capex	-	-	-	1 507	2 170	1 831
Total	**170 462**	**172 816**	**171 268**	**174 781**	**178 691**	**185 260**

In general, Arup noted that TasWater's opex forecasts for the third regulatory period show positive signs of improving productivity and service delivery, although these improvements are very gradual.

7.6 Review of opex for the third regulatory period

In its review of TasWater's forecast opex for the third regulatory period, Arup concentrated on TasWater's major opex categories in terms of their respective contributions to TasWater's total opex. In addition to this analysis, the Economic Regulator has considered the likely impact of TasWater's capex program on its opex and has reviewed TasWater's allocation of costs.

In this section of the Draft Report, and in Arup's Draft Report, the Economic Regulator notes that there are minor variations between the figures in Table 54 of TasWater's proposed Price and Service Plan (reproduced in Table 7.3) and the result of multiplying TasWater's total opex by 96 per cent (which is TasWater's estimate of the regulated component of its opex, see Section 7.7 below

7.6.1 Salaries

TasWater is forecasting that its salary costs, its largest single expenditure item, will remain relatively constant in real terms throughout the third regulatory period. The primary driver for salary cost increases, according to TasWater's calculation method, is escalation of 2.25 per cent per annum based on the Wage Price Index and TasWater's Enterprise Bargaining Agreement (EBA). In TasWater's view, although changes in staff numbers obviously affect salary costs, they do not constitute the primary driver.

TasWater's forecast salary costs over the third regulatory period factor in a one-off adjustment saving of $1.0 million in 2017-18 due to the cessation of several temporary staffing roles. The forecasts also account for actual and forecast productivity improvement savings of roughly $5.5 million between 2016-17 and 2019-20 due to plant optimisation and better use of technology to improve business processes.

Arup suggests that TasWater could further reduce its forecast salary costs for the third regulatory period by adopting an escalation factor of 2 per cent per annum, rather than 2.25 per cent. This would mirror the annual fixed wage increase in TasWater's current EBA. Arup noted that, although this EBA is due to expire at the end of the second regulatory period, analysis done by Deloitte Access Economics forecasts that utilities' labour prices will continue to increase by roughly 2 per cent per annum during the third regulatory period.

Arup therefore recommends that TasWater adjust its forecast salary costs for the third regulatory period, as shown in Table 7.4. The Economic Regulator intends to accept Arup's recommendation.

Table 7.4 TasWater's and Arup's forecast salary costs for the third regulatory period ($'000s)

Salaries	2018-19	2019-20	2020-21	Total
TasWater	82 662	84 385	86 394	253 441
Arup	81 088	82 714	84 667	248 468
Proposed adjustment	- 1 574	- 1 671	- 1 728	- 4 973

In relation to salaries and salary on-costs, Arup recommended that:

> …the Regulator require the development of and delivery of a Labour Force Plan. This plan updated on a 3 yearly cycle, should have a 5-year horizon which spells out the management plan for the number and skill sets of the FTE's within TasWater. It should itemise the role and utilisation of insourced and outsourced FTE resources and plans for skill development and productivity improvements.

The Economic Regulator considers that such a plan would assist the Economic Regulator assess the appropriateness and efficiency of TasWater's actual and forecast salary opex. It would also help TasWater to better plan and manage the number of FTEs and the skillsets of its workforce, and identify opportunities for productivity improvements.

The Economic Regulator therefore intends to accept this recommendation and to require, from the fourth regulatory period onwards, that TasWater justify its salary opex in terms of its Labour Force Plan.

The Economic Regulator intends to require that TasWater adjust its forecast salary costs for the third regulatory period, as shown in Table 7.4.

The Economic Regulator intends to require that TasWater develop and deliver a five-year Labour Force Plan, to be reviewed and updated on a rolling three-yearly cycle.

The Economic Regulator intends to require that, in future Price and Service Plans, TasWater justify its salary opex in terms of its Labour Force Plan.

7.6.2 Materials and services

TasWater is forecasting that its overall materials and services costs will slowly increase over the third regulatory period. This forecast accounts for actual and forecast productivity improvement savings of $0.7 million in 2016-17 and $2.6 million in 2017-18. However, the primary driver of these costs is an escalation factor based on the Australian producer prices index (PPI) for engineering and construction. The Australian Bureau of Statistics has forecast that this index will roughly triple over the duration of the second and third regulatory periods, which will offset much of the productivity gains.

Arup noted that TasWater's actual and forecast materials and services costs indicate changes in the way the opex is spent, as TasWater improves its proactive maintenance practices based on more and better data. This suggests both ongoing improvements in service delivery and the potential for further efficiency gains. Arup therefore recommends that TasWater adopt a lower escalation rate than that prescribed by the PPI, unless TasWater can demonstrate a strong need and rationale for using the higher value. Arup suggests that TasWater use an escalation value that would result in a step change of 1.7 per cent between the second and third regulatory periods, rather than the 4.6 per cent currently forecast, and adjust its forecast materials and services costs, as shown in Table 7.5.

Table 7.5 TasWater's and Arup's forecast materials and services costs for the third regulatory period ($'000s)

Materials & Services	2018-19	2019-20	2020-21	Total
TasWater	28 918	30 314	32 167	91 399
Arup	28 117	29 676	31 300	89 093
Proposed reduction	- 801	- 638	- 866	- 2 306

The Economic Regulator intends to accept Arup's recommendation, and to require that TasWater adjust its forecast materials and services costs for the third regulatory period, as outlined in Table 7.5.

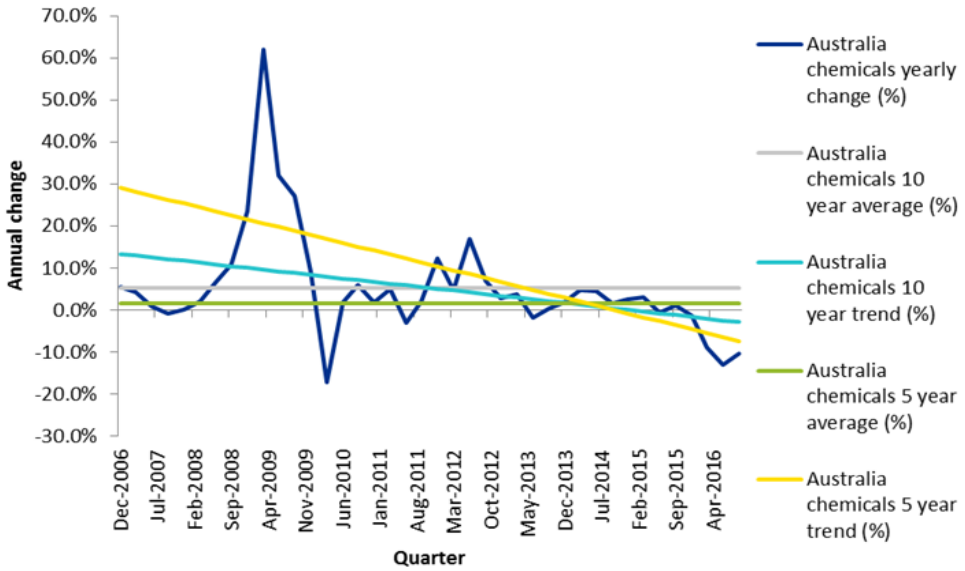
The Economic Regulator intends to require that TasWater adjust its forecast materials and services costs for the third regulatory period, as shown in Table 7.5.

7.6.3 Chemicals

TasWater has steadily increased its expenditure on chemicals during the second regulatory period and is forecasting that this increase will continue through the third regulatory period. In particular, TasWater notes its increased expenditure on activated carbon, which it uses to address taste and odour issues in water caused by algal blooms in reservoirs producing geosmin and methylisoborneol. Arup noted that TasWater is obliged to treat water and sewerage to an appropriate standard through chemical treatment.

TasWater's opex forecasts for the third regulatory period, the primary driver for chemicals costs is an escalation factor based on the PPI for chemical manufacturing. Arup noted that TasWater has based the escalation figure used in its forecasts (5.02 per cent) on an historical ten-year average of chemicals prices in Australia, which includes a significant price spike in 2009, as shown in Figure 7.2.

Figure 7.2 Historical chemical price changes in Australia[30]



[30] Arup, 2017, Review of the Tasmanian Water and Sewerage Corporation's Operating and Capital Expenditure, Draft Report, page 67.

Arup suggests that the chemical price spike in 2009 was likely due to the impacts of the global financial crisis (GFC), and noted that since that time, and especially since 2015, chemical prices have been trending down. Although Figure 7.2 shows evidence of a small price increase in 2016, there is no evidence that suggests a return to annual 5 per cent price increases in the near future. Arup's opinion is that it would be prudent for TasWater to lock in long-term chemical supply contracts while prices are relatively low to ensure price certainty. Arup therefore recommends that TasWater adopt an escalation factor based on the historical five-year average of Australian chemicals prices, rather than the ten-year average, which would reduce the escalation factor to roughly 1.5 per cent per annum. This would require TasWater to adjust its forecast chemical costs for the third regulatory period, as shown in Table 7.6.

The Economic Regulator intends to accept Arup's recommendation and require TasWater to adjust its chemical costs forecasts, as shown in Table 7.6.

Table 7.6 TasWater's and Arup's forecast chemicals costs for the third regulatory period ($'000s)

Chemicals	2018-19	2019-20	2020-21	Total
TasWater	9 726	10 274	10 853	30 852
Arup	9 259	9 785	10 333	29 377
Proposed reduction	- 467	- 489	- 520	- 1 475

The Economic Regulator intends to require that TasWater adjust its forecast chemicals costs for the third regulatory period, as shown in Table 7.6.

7.6.4 Electricity

Electricity costs make up roughly 7.3 per cent of TasWater's proposed opex for the third regulatory period, the third largest component of overall opex. The majority of TasWater's electricity use relates to pumping and water treatment, therefore increases in customer demand will likely lead to increases in electricity costs.

Arup noted that despite a forecast increase in customer demand, TasWater has forecast that electricity costs will decrease during the third regulatory period, from almost $14.5 million in 2017-18 to around $13.5 million in 2020-21. TasWater is forecasting this decrease in electricity costs based on the continuing and expected benefits of its efficiency and productivity initiatives, particularly those that will monitor and optimise the timing of pumping and water treatment operations.

Although TasWater has forecast considerable year-to-year volatility in electricity costs during the third regulatory period, Arup considers that the proposed overall reduction in TasWater's electricity costs is a positive result and represents an efficient outcome.

Based on Arup's analysis, the Economic Regulator intends to accept TasWater's forecast electricity costs for the third regulatory period, as shown in Table 7.7.

Table 7.7 TasWater's and Arup's forecast electricity costs for the third regulatory period ($'000s)

Electricity	2018-19	2019-20	2020-21	Total
TasWater	13 628	12 502	13 407	39 538
Arup	13 628	12 502	13 407	39 538
Proposed adjustment	-	-	-	-

The Economic Regulator intends to accept TasWater's forecast electricity costs for the third regulatory period, as shown in Table 7.7.

7.6.5 Facility management

Considering the age and number of facilities managed by TasWater, its spending on facility management is between 12 and 15 per cent lower than expected based on benchmarking against other Australian water and sewerage utilities. TasWater has stated that this does not necessarily indicate efficiency in its facility management practices, but is more to do with ongoing shortfalls in the funding required to conduct facility management opex (and capex).

Arup noted that TasWater forecasts a one-off productivity improvement saving of $0.5 million in 2017-18 due to a move from having multiple site cleaning contracts to a single state-wide contract. TasWater is currently working to secure single state-wide contracts for facilities and grounds maintenance services as well. Despite the productivity improvement savings, TasWater forecasts its facility management costs to remain relatively constant during the third regulatory period, as shown in Table 7.8, due to a combination of factors including increased base spend, demand and general cost escalation.

Table 7.8 TasWater's and Arup's forecast facility management costs for the third regulatory period ($'000s)

Facility Management	2018-19	2019-20	2020-21	Total
TasWater	6 557	6 690	6 869	20 116
Arup	6 557	6 690	6 869	20 116
Proposed adjustment	-	-	-	-

Based on Arup's analysis and recommendations, the Economic Regulator intends to accept TasWater's facility management costs forecasts for the third regulatory period.

The Economic Regulator intends to accept TasWater's forecast facility management costs for the third regulatory period, as shown in Table 7.8.

7.6.6 Information systems

Arup found that TasWater has significantly underinvested in its information systems since its formation in 2014, continuing a trend begun by the three regional water and sewerage corporations. Although TasWater more than doubled its opex relating to information systems during the second regulatory period, its level of investment is still very low compared to other Australian water and sewerage utility providers.[31]

For the third regulatory period, TasWater is forecasting that its information systems costs will increase at an annual rate of less than the CPI, resulting in a small reduction in real opex. Arup noted that while increased expenditure on information systems should typically lead to productivity gains, there are also costs to consider in terms of staff training and maintenance. As such, TasWater's past and forecast information systems costs are not necessarily inefficient or imprudent.

[31] Water Services Association of Australia, *2014/15 Opex Benchmarking Study, Industry Report*, December 2015 (version 0.17).

Arup highlighted TasWater's ongoing investment in supervisory control and data acquisition (SCADA) systems and cloud services with the aim of improving operational efficiency. This will likely lead to increases in the ratio of opex to capex information systems costs for TasWater in the future. In Arup's opinion, there appears to be considerable scope for TasWater to increase its expenditure on information systems with the goal of increasing productivity and reducing opex (and capex) in other areas.

TasWater is forecasting a constant annual increase in its information systems costs of $88 528 (2 per cent per annum) during the third regulatory period, to account for the increasing use of these systems and its historical underinvestment in IT. Arup has noted that "… while the base opex increase through the constant one-off adjustment is accepted for the PSP3 period, its continued existence cannot necessarily be accepted without robust justification."[32]

Noting Arup's recommendation and the immaterial nature (in the context of TasWater's opex) of TasWater's annual increase in IT costs, the Economic Regulator but does intend to seek further justification from TasWater for its forecast annual increase in its information systems base cost.

The Economic Regulator therefore intends to accept TasWater's information systems costs forecasts for the third regulatory period, as shown in Table 7.9.

Table 7.9 TasWater's and Arup's forecast information management costs for the third regulatory period ($'000s)

Information systems	2018-19	2019-20	2020-21	Total
TasWater	4 468	4 540	4 611	13 619
Arup	4 468	4 540	4 611	13 619
Proposed adjustment	-	-	-	-

The Economic Regulator intends to accept TasWater's forecast information management costs for the third regulatory period, as shown in Table 7.9.

7.6.7 Motor vehicle costs

As noted in Section 6.3.1.2, Arup recommended reductions in TasWater's vehicle fleet capex. Flowing on from this recommendation, Arup has recommended reductions in TasWater's motor vehicle costs, as outlined in Table 7.10.

Table 7.10 TasWater's and Arup's forecast motor vehicle costs for the third regulatory period ($'000s)

Motor vehicle	2018-19	2019-20	2020-21	Total
TasWater	3 959	3 989	4 019	11 966
Arup	3 389	3 414	3 440	10 243
Proposed reduction	- 570	- 574	- 579	- 1 723

As discussed in Section 6.3.1.2, the Economic Regulator intends to accept Arup's recommended reductions to TasWater's vehicle fleet capex. The Economic Regulator therefore intends to accept Arup's recommended reductions to TasWater's motor vehicle costs, and to require that TasWater adjust its forecast motor vehicle costs, as shown in Table 7.10.

[32] Arup, 2017, page 76.

The Economic Regulator intends to require that TasWater adjust its forecast motor vehicles costs for the third regulatory period, as shown in Table 7.10.

7.6.8 Impact of capex on opex

In its proposed Price and Service Plan for the third regulatory period, TasWater explains that new capex investment often results in opex changes. New assets commonly incur new operating and maintenance costs, particularly when those assets are necessary to improve compliance levels. Since TasWater has realigned its capex program during the second regulatory period to focus on compliance improvements, expenditure on new assets over the remaining years of the second regulatory period, and through the third regulatory period, will generally add to overall opex.

TasWater has reviewed the capex projects it expects to complete during the third regulatory period and determined how much its opex is likely to increase due to this expenditure. Although some capex projects will result in opex decreases due to productivity gains, TasWater estimates that its opex will increase by roughly $2.7 million by 2020-21 due to new assets from its capex program. Table 7.11 below contains a selection of capex projects that TasWater forecasts will lead to increases in its opex during the third regulatory period.

Table 7.11 Impact of selected TasWater capex projects on opex during the third regulatory period ($'000s)

Project name	2018-19	2019-20	2020-21
Kingborough Sewerage Strategy	-	-	500
Rosebery Water Treatment Plant	326	326	326
King Island Water Treatment Plant	-	278	278
Mathinna water supply system	175	175	175
Flinders Island water supply project	144	144	144
Bronte Park water supply system	123	123	123
Gladstone water supply system	120	120	120
Rossarden water supply system	100	100	100
Wayatinah water supply system	100	100	100
Cornwall water supply system	-	100	100
Colebrook water supply system	82	82	82
Gormanston water supply system	-	65	65
Judbury water supply upgrade	52	52	52
Gretna water supply system	40	40	40
Epping water supply system	-	28	28
Rocky Creek Water Treatment Plant	-	24	24
Conara water supply system	24	24	24
Herrick water supply system	-	13	13
TOTAL Note	1 507	2 170	2 720

Note: The total includes the impact on opex of several smaller capex projects not listed in Table 7.11.

Section 7.8 discusses the Economic Regulator's proposed treatment of TasWater's forecast opex increases due to capex.

7.7 Cost allocation

Not all of TasWater's opex goes towards maintaining regulated assets or providing regulated services, as a proportion of TasWater's business activities are unregulated. The Economic Regulator consequently requires TasWater to deduct its unregulated opex from its total opex to provide a regulated opex, which the Economic Regulator uses in calculating TasWater's Statutory Revenue Limit.

As noted in Section 1.9, the Economic Regulator requires TasWater to prepare and submit annual regulatory financial statements. Relevant to cost allocation, the Economic Regulator's Ring Fencing Guideline contains the following requirements:

> Expenditure, assets, liabilities and revenue recorded in a regulated entity's statutory financial statements must be allocated (using the Allocation Principles set out in clause 4.3 of the Guidelines) into headings that correspond to:
>
> (a) operating expenditure activity areas set out in Appendix B.3
>
> (b) capital expenditure cost drivers and asset categories set out in Appendices C.4 and C.5
>
> (c) revenue sources set out in Appendix D.3.
>
> The items referred to in clause 4.2.2 of the Guidelines must then be allocated using the relevant worksheet in Appendix A and by using the Allocation Principles set out in clause 4.3 between:
>
> (a) regulated water services
>
> (b) regulated sewerage services
>
> (c) unregulated services
>
> (d) other (ie not allocated to any of the services listed in clauses 4.2.3(a) to (c) inclusive of this Guideline, to provide disaggregated statements of income and financial position for each regulated and unregulated business segment.
>
> The allocation of statutory account amounts to regulated business segments, cost drivers, asset categories, activity areas and revenue sources must be based on the principle that:
>
> (a) amounts which are directly attributable to a business segment, cost driver, asset category, activity area or revenue source are assigned to that business segment, cost driver, asset category, activity area or revenue source
>
> (b) amounts which are not directly attributable to a business segment, cost driver, asset category, activity area or revenue source must be allocated on a causation basis, except where a causal relationship cannot be reasonably established, for example, where the cost of deriving the causal allocation outweighs the benefits of allocating items on that basis, items may be allocated on a non-causal basis provided that:
>
> (i) the regulated entity must provide a detailed justification that there is likely to be a strong positive correlation between the non-causal basis and the actual cause of resource or service consumption or utilisation that those expenditure represent
>
> (ii) the aggregate of all amounts allocated on a non-causal basis is not material to the regulatory financial statements.

> An account item must be either:
>
> (a) directly attributed; or
>
> (b) allocated using a single basis of allocation.[33]

The audit of TasWater's Regulatory Financial Statements for 2015-16 identified concerns about TasWater's cost allocation approach. Specifically, the Tasmanian Audit Office (TAO) noted that:

> From our review of the basis of, and justification for, the allocation of indirect costs we recommended that TasWater review its approach to the allocation of indirect costs and adopt a basis that meets the definition of 'causal". This would require a move away from the use of revenue as an allocation base and the adoption of approaches that better reflect the most significant trigger of consumption or utilisation of the resources or services represented by the expenditure.[34]

In response to this finding the Economic Regulator required TasWater to allocate indirect costs other than on the basis of revenue and address this issue in its 2016-17 Regulatory Financial Statements and, as relevant, in its proposed Price and Service Plan for the third regulatory period.

For the second regulatory period, after allocating its direct unregulated opex against individual assets wherever possible, and calculating its remaining unregulated opex based on the percentage of its total revenue that came from unregulated services, TasWater also allocated its regulated opex between water and sewerage services. Again, wherever possible TasWater directly budgeted regulated opex to individual assets. Where this was not possible, TasWater allocated its regulated opex based on its ratio of water revenue to sewerage revenue, 53 per cent to 47 per cent.

TasWater has indicated its preference to continue directly budgeting its opex to regulated and unregulated services, and to water and sewerage services, wherever possible in its proposed Price and Service Plan for the third regulatory period. The Economic Regulator agrees that this is an appropriate approach to cost allocation.

TasWater's Regulatory Financial Statements for 2015-16 showed $77.4 million of regulated opex, split roughly 49.5 per cent to 50.5 per cent between water and sewerage services. The accounts showed a further $0.189 million of unregulated opex assigned to sewerage services. This left $100.2 million, or 56 per cent of TasWater's total opex for 2015-16, requiring allocation to either regulated or unregulated services, and water and sewerage services.

In its proposed Price and Service Plan for the third regulatory period, TasWater provided details of the revenue it received during 2015-16 that related to the provision of unregulated services. Table 7.12 reproduces those details.

TasWater noted that the unregulated revenue total of $12.5 million comprises roughly 4 per cent of its total revenue for 2015-16 ($313 million). TasWater has therefore assumed that it spent 4 per cent, or $7.3 million, of its total opex during 2015-16 on unregulated services.

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[33] Tasmanian Audit Office, Examination of the Tasmanian Water and Sewerage Corporation Pty Ltd's 2015-16 Regulatory Financial Statements, 17 March 2017, page 19.

[34] Ibid, page 25.

Table 7.12 TasWater's unregulated revenue for 2015-16 ($'000s)

Revenue item	Revenue collected
Trade Waste Categories 3 and 4 – Volumetric	5 780
Trade Waste Categories 3 and 4 – Fixed	1 215
Biosolids Sales	1 713
Irrigation – Volumetric	1 081
Irrigation – Fixed	96
Consulting Income	1 427
Tankered Waste	693
Rent	445
Government Training Funding	70
Total	**12 521**

TasWater justifies this approach to cost allocation on the basis that, in general, the prices it charges for unregulated services are cost reflective, and therefore the revenue it receives for these services should closely mirror the costs involved in providing the services. The Economic Regulator notes that 4 per cent is similar to the percentage of opex excluded from TasWater's cost build up for the second regulatory period.

However, the Economic Regulator subsequently identified that TasWater received $1.478 million from the Launceston City Council in 2016-17 in relation to services TasWater provided in operating the unregulated stormwater component of the Launceston Combined System. Including this revenue results in unregulated revenue of $13.99 million and an unregulated revenue to total revenue percentage of 4.5 per cent (compared to TasWater's 4 per cent). Noting that changing this percentage would not have a material impact on TasWater's opex, the Economic Regulator intends to accept TasWater's apportionment of total opex between regulated and unregulated components.

Using a similar cost allocation method to the one it used for the second regulatory period, TasWater has directly attributed its regulated opex costs to individual assets wherever possible. This is not possible for all opex, as some of it goes towards supporting the operation of the entire business. TasWater considered allocating this remaining opex based on its revenue split between water and sewerage services, but noting the TAO's recommendations from its review of TasWater's 2015-16 Regulatory Financial Statements, concedes that its regulated revenues are not as cost reflective as its unregulated revenues so this method is not always appropriate. TasWater therefore investigated several alternative cost allocation methods in its proposed Price and Service Plan for the third regulatory period. For example, in instances where a large portion of a particular opex category was directly attributable, TasWater has allocated the balance of that opex category based on the same water to sewerage costs ratio as the attributable opex.

Applying its revised cost allocation method to its 2015-16 opex, TasWater arrived at a water: sewerage ratio for its regulated opex of 51.2 per cent: 48.8 per cent. TasWater notes that it expects its cost allocation accuracy to improve in the future as it collects more cost data through its asset management information system (AMIS).

TasWater's rationale for this methodology and the reasoning behind the cost allocation ratios it has adopted for each opex category appear sound and, subject to the outcomes of future audits of TasWater's regulatory financial statements, appear to address the concerns raised by the TAO about the basis for the allocation of TasWater's indirect costs. In particular, TasWater has allocated its indirect costs on a basis other than revenue with the exception of customer collection costs, which TasWater

has continued to allocate based on revenue. The Economic Regulator considers this to be appropriate given that the costs of recovering revenue vary in accordance with the amount of revenue collected.

Having reviewed TasWater's cost allocation methodology, the Economic Regulator intends to accept TasWater's cost allocations as presented in its proposed Price and Service Plan for the third regulatory period.

The Economic Regulator looks forward to TasWater being able to provide better quality data to support its cost allocations in future Price and Service Plans as a result of the implementation of its AMIS.

The Economic Regulator intends to accept TasWater's proposed cost allocations for the third regulatory period.

7.8 Productivity improvements/efficiencies

In addition to Arup's recommendations for specific reductions in a number of TasWater's opex categories, the Economic Regulator notes that Arup found:

- TasWater has identified significant productivity savings in a number of opex categories during both the second and third regulatory periods.
- TasWater's identified productivity savings are forecast to occur within the next two financial years with minimal savings forecast thereafter.

On the latter point the Economic Regulator notes that Table 44 of TasWater's proposed Price and Service Plan shows that TasWater expects to have implemented $12 million of permanent annual opex reductions by 2020-21.

Table 7.13 Summary of TasWater's forecast productivity savings ($000s)

	2016-17	2017-18	2018-19	2019-20	2020-21
Incremental productivity savings	3 460	5 004	2 171	483	889
Cumulative annual savings	3 460	8 464	10 635	11 118	12 007

Arup observed that:

> ..... [it] would expect that consecutive regulatory years of opex overspend are reflected in improved compliance and benchmarked performance by the end of PSP2, and going forward, the spending levels must be rigidly maintained within the final regulated allowance in PSP3. Should this not occur during PSP3, the TER would likely be justified in imposing significant sanctions for non-compliance by TasWater.

The Economic Regulator shares Arup's concerns about TasWater's productivity savings falling away over the third regulatory period.

The Economic Regulator remains mindful of the fact that, under a building block approach, it is unable to clawback opex that is subsequently found to be inefficient (in contrast, imprudent or inefficient capex is removed from the asset base and TasWater does not receive a return on that expenditure).

The Economic Regulator therefore intends to require that TasWater achieve additional productivity savings for the third regulatory period by reducing its opex by the additional opex identified as flowing from the proposed capital program. This means that TasWater will be required to fund those additional costs through business efficiencies. As shown in Table 7.11, this would result in TasWater's annual opex reducing by between $1.5 and $2.7 million over the third regulatory period.

The Economic Regulator intends to investigate, during the third regulatory period, an opex efficiency incentive mechanism for implementation at the commencement of the fourth regulatory period on 1 July 2021.

The Economic Regulator intends to require TasWater to achieve productivity savings above those it has proposed for the third regulatory period by reducing TasWater's opex by its forecast of the impact of capex on opex.

7.9 Re-use water

As noted in Section 7.1, TasWater was required to provide details about the net savings derived from, or the net costs incurred in, providing re-use water to external parties. This information was omitted from TasWater's proposed Price and Service Plan and, in response to a request from the Economic Regulator, TasWater advised that:

> Reuse and/or recycled water schemes vary between unregulated services and least cost waste water disposal solutions. We consider reuse on a case by case basis when developing possible solutions for addressing non-compliant systems or treatment plants. The EPA requires that an assessment be undertaken for all waste water treatment plant improvement plans of opportunities to divert water from treated effluent for beneficial purposes including irrigation of agricultural, forestry or public land. The sensitivity of receiving environments is an important consideration; however the underlying premise is one of identifying the least cost solution for customers.[35]

TasWater advised that it cost $0.634 million and $0.837 million in 2014-15 and 2015-16 respectively to provide re-use water to external parties.

Table 7.14 TasWater's costs of providing re-use water to external parties ($000s)

Revenue and expenditure	2014-15	2015-16
Revenue received	85	109
Depreciation	-502	-653
Operations and maintenance	-226	-293
Net savings derived/(costs incurred) in providing reuse water	**-643**	**-837**

7.10 Economic Regulator's draft proposals

The Economic Regulator intends to propose the adjustments set out in Table 7.11 to TasWater's opex for the third regulatory period.

Table 7.15 TasWater's opex for the third regulatory period ($'000s)

	2018-19	2019-20	2020-21	Total
TasWater's proposed opex	174 781	178 691	185 260	538 732
Arup's adjustments	-3 412	-3 373	-3 692	- 10 477
Economic Regulator's efficiency adjustment	- 1 507	- 2 170	- 2 720	- 6 397
Economic Regulator's opex	169 862	173 149	178 848	521 858
Total opex reductions	**- 4 919**	**- 5 543**	**- 6 412**	**- 16 874**

[35] TasWater, *Response to OTTER questions received on 9 August 2017*, page 19.

8 REGULATORY DEPRECIATION

Under a building block approach, a regulated business recovers its investment in the assets used to provide regulated services over the economic life of those assets through a regulatory depreciation allowance. Regulators usually determine the value of this regulatory depreciation allowance having regard to:

- the value of the assets that make up the RAB (see Chapter 10);
- the profile assumed for the recovery of the capital invested in the asset (for example, straight line depreciation where the value of an the asset is spread evenly over its life); and
- the economic lives of the assets used in the provision of services (often referred to as the remaining economic life for existing assets and standard economic life for new assets).

The resultant regulatory depreciation allowances are used in calculating the statutory revenue limit (Chapter 11).

8.1 Background

8.1.1 Second regulatory period – 1 July 2015 to 30 June 2018

For the second regulatory period, the Economic Regulator applied a value weighted average approach and determined the useful lives and calculated regulatory depreciation rates for each of TasWater's asset group/categories ie Existing Water, Existing Sewerage, New Water and New Sewerage assets. The applicable regulatory depreciation rates were calculated as follows:

$$\text{Regulatory depreciation rate} = \frac{1}{\text{Average useful life of assets}}$$

The treatment of regulatory depreciation for both the first and second regulatory periods had no impact on prices as price increases were capped as customers transitioned to target tariffs.

8.1.2 Third regulatory period – 1 July 2018 to 30 June 2021

The Economic Regulator published its *Tasmanian Water and Sewerage Industry 2018 Price Determination Investigation Price and Service Plan Guideline* (the PSP Guideline) in June 2016 to assist TasWater in preparing its proposed Price and Service Plan.

With regards to regulatory depreciation, section 7.2.4 of the Guideline states that:

> A separate proposed depreciation rate will need to be calculated for each RAB. Each proposed depreciation rate should be calculated on a straight-line basis having regard to the assets' average useful life. Each depreciation rate will then be applied throughout the second regulatory period.
>
> Depreciation for the roll forward under the statutory revenue limit is calculated on the same basis as outlined in section 3.1.1.3 for the upper limit (except there is no capex or third party capital contributions in the RAB incorporating assets transferred to the previous regulated entities before 1 July 2011).

The Ring Fencing Guideline states that:

> The regulated entity is .... required to calculate the weighted average regulatory depreciation rate for each Asset category listed in Schedules 500C [Existing Water Assets and New Water Assets] and 500CC [Existing Sewerage Assets and New Sewerage Assets].

The Guideline provides that depreciation on existing assets ($D_{EXISTING}$) in each financial year of the third regulatory period is to be calculated as follows:

$$D_{EXISTING} = DR_{EXISTING} \times (\text{Opening } RAB_{EXISTING} - (0.5 \times AD_{EXISTING}))$$

Where:

$DR_{EXISTING}$	=	depreciation rate for existing assets
	=	$\frac{1}{\text{Average useful life of existing assets}}$
Opening $RAB_{EXISTING}$	=	opening value of $RAB_{EXISTING}$ in each financial year
$AD_{EXISTING}$	=	existing asset disposals

The Guideline provides that depreciation on new assets (D_{NEW}) in each financial year of the third regulatory period is to be calculated as follows:

$$D_{NEW} = DR_{NEW} \times (\text{Opening } RAB_{NEW} + (0.5 \times (\text{capex} - CC - AD_{NEW})))$$

Where:

DR_{NEW}	=	depreciation rate for new assets
	=	$\frac{1}{\text{Average useful life of new assets}}$
Capex	=	capital expenditure
Opening RAB_{NEW}	=	opening value of RAB_{NEW} in each financial year
CC	=	third party capital contributions
AD_{NEW}	=	new asset disposals

The average useful life of both existing and new assets is calculated as follows:

(i) Calculate the contribution (weighting) of each asset to the value of all of the assets by dividing the value of each asset by the sum of the value of all assets.

(ii) Calculate the contribution (weighting) of each asset to the weighted average asset life by multiplying each asset's useful life by the weighting calculated in step (i).

(iii) Calculate the regulatory depreciation rate by dividing 1 by the sum of the weighted average useful lives calculated in step (ii).

8.2 TasWater's Proposal

TasWater's Regulatory Asset Register currently contains over 260 000 assets[36] with each asset having a regulatory asset value and useful life. The Economic Regulator understands that TasWater uses the same asset lives and therefore depreciation rates for tax, accounting (ie statutory), insurance and regulatory purposes.

In its proposed Price and Service Plan TasWater proposed a line by line approach to the calculation of regulatory depreciation. Under a line by line approach, the regulatory depreciation for each individual asset is calculated and summed to give the regulatory depreciation expense for each financial year of the regulatory period. Working backwards, ie dividing each RAB by the relevant summed regulatory depreciation expense, TasWater's proposed depreciation rates are shown in Table 8.2 (the rates approved for the second regulatory period are shown for comparison purposes).

In support of its proposal, TasWater noted that:

> A line by line approach is consistent with good engineering practice and the maintenance of an asset register that - among other things - records for each asset its rolled forward regulatory value (ie an annually updated value) and its remaining asset life (ie its annually updated residual lifespan). This recommendation provides an incentive for the business to maintain high quality asset data on an ongoing basis, consistent with good engineering practice.

Table 8.2 Regulatory depreciation - comparison of approved and proposed rates

Category	Third regulatory period - proposed depreciation rate	Second regulatory period - approved depreciation rates
Water existing	2.85%	2.36%
Water new	5.12%	1.74%
Sewerage existing	2.99%	2.54%
Sewerage new	6.21%	1.76%

TasWater considers that the benefits of line by line depreciation are that it is the:

> …most accurate approach to calculate depreciation allowances. It allows full transparency and auditability of the depreciation allowance. If a weighted average approach is used, then it is not practical to maintain an asset register with individual assets with meaningful asset values.[37]

[36] Approximately 240 000 existing assets and 20 000 new assets.

[37] Jacobs Group, PSP3 Regulatory Depreciation Paper, 21 May 2017, page 6.

TasWater contends that adopting a weighted average approach would mean that:

> … long-lived assets, such as pipes and dams would be depreciated too quickly. Conversely, short-lived assets, such as computers and vehicles, would be depreciated too slowly. These short-lived assets would remain in the asset register far beyond their useful lives, if a weighted average life is used for depreciation.[38]

TasWater considers that variations between the weighted average estimate of regulatory depreciation and the underlying regulatory asset register will create intergenerational equity issues eg if the weighted average approach generates an asset life that is too short, current customers will pay a higher than cost-reflective depreciation allowance resulting in them paying an amount that exceeds the benefit they will receive.

8.3 Practices in other jurisdictions

The Economic Regulator sought responses from regulators in other jurisdictions in relation to the following questions:

1. If a regulated entity had line-by-line data for each of its regulatory assets would you allow it to calculate regulatory depreciation on that basis?
   (a) If so, the jurisdictional regulator was asked to explain why it would take this course of action
   (b) If not, the jurisdictional regulator was asked to explain why it would not take this course of action
2. Are there arguments for adopting the line-by-line approach for new assets only?

Responses from each regulator are set out below in sections 8.3.1 to 8.3.5 inclusive. The Economic Regulator researched the Australian Energy Regulator's (AER) and the Australian Consumer and Competition Commission's (ACCC) approaches to regulatory depreciation. The results from the Economic Regulator's research are presented below in sections 8.3.6 and 8.3.7 respectively.

8.3.1 Victoria

The Essential Services Commission (ESC) gives its water businesses the option of calculating regulatory depreciation on a line by line basis. However, the ESC noted that, for simplicity, most businesses calculate regulatory depreciation using a weighted average approach. The ESC noted that its analysis shows that, in NPV terms, businesses are no better or worse off under either approach.

The ESC advised that, if businesses do use the weighted average approach, they have the option to override their annual aggregated depreciation numbers. However, total depreciation over the 10-year outlook must be equal to the total depreciation calculated under the weighted average approach ie regulatory depreciation calculated on a line by line approach must not exceed, over a ten-year period, the regulatory depreciation calculated under a weighted average approach.

The ESC noted that, in considering a line by line approach, it is important to balance the advantage of more accurately calculating depreciation compared with the administrative costs associated with it.

[38] TasWater, *Proposed Price and Service Plan 3, 1 July 2018 to 30 June 2021*, pages 109-110.

8.3.2 New South Wales

In its most recent price determination for Sydney Water, Sydney Water proposed[39], and IPART approved[40], Sydney Water using a total of 30 RABs as follows:

- five RABs for each of water, sewerage and stormwater services (15 RABs in total);
- five corporate RABs; and
- ten RABs for leased assets.

In practice, each RAB is rolled forward separately and different regulatory depreciation rates are applied to each RAB based on RAB-specific remaining useful asset life calculations. Table 8.3 from Sydney Water's current Price Plan shows the remaining useful lives for each RAB.

Table 8.3 Sydney Water - useful lives (years)

Category	Civil	Electronic	Mechanical	Electrical
Water	93.2	9.3	29.7	20.5
Wastewater	80.9	9.3	16.5	16.9
Stormwater	116.6	0	0	0
Corporate	62.7	6.4	5.0	0
Finance leases - water	55.8	16.1	20.8	20.1
Finance leases - wastewater	80.0	0	0	0

8.3.3 Australian Capital Territory

Following the Independent Consumer and Regulatory Commission's 2013 regulated water and sewerage services investigation into Actew's (since renamed as Icon Water) proposed prices and services, the Industry Panel conducted a review in response to an appeal lodged under the review provisions of the *Independent Competition Regulatory Commission Act 1997*.[41]

Noting the Panel's findings, Icon Water's Submission of 1 July 2017 for the upcoming 2018-23 regulatory period noted that:

> … [it agreed] …with the Industry Panel that it is appropriate to use economic asset lives. Consistent with the 2015 Industry Panel decision, Icon Water has used a weighted average asset life for existing water and sewerage assets and asset specific lives for water security assets and new capital expenditure. Asset lives for new capital expenditure are determined at the project level and are set equal to the asset lives used in the 2015 Industry Panel decision where possible. Where no equivalent project exists in the Industry Panel model, an asset life is set based on Icon Water internal practices.[42]

[39] Sydney Water, Price Plan 2016-20 (30 June 2015), pages 88-9.

[40] Independent Pricing and Regulatory Tribunal, Review of prices for Sydney Water From 1 July 2016 to 30 June 2020, Water - Final Report, June 2016, pages 127-30.

[41] Industry Panel, Review of the Independent Competition and Regulatory Commission's 2013 Price Direction for Regulated Water and Sewerage Services in the ACT, Final Report, April 2015.

[42] Icon Water, Attachment 8, Regulatory Asset Base, 30 June 2017, page 8.

The Economic Regulator notes that Icon Water has distinguished between 'Remaining asset lives' for existing assets and 'Standard asset lives' for new assets commissioned during the regulatory period.

Icon Water's RAB comprises separate water and sewerage categories with regulatory depreciation calculated on a weighted average approach for existing assets and on a line by line approach for new assets for assets in each category.

Table 8.4 below sets out the useful lives and resultant regulatory depreciation rates for Icon Water's major asset classes.

Table 8.4 Icon Water - useful lives and regulatory depreciation rates

Description	Useful lives (years)	Regulatory depreciation rate (%)
Existing water assets	51.4	1.95
Existing sewerage assets	41.3	2.42
New assets - dams	150	0.67
New assets - treatment plants	30-60	1.66 - 3.33
New assets - pump stations	20-60	1.66 - 5
New assets - Corporate other	5	20

8.3.4 South Australia

The Essential Services Commission of South Australia (ESCOSA) is of the view that the weighted average approach balances the need to have a certain level of detail in the depreciation schedule, as assets can have very different lives, with the need for administrative simplicity (to avoid complexity of depreciating every asset with a different life individually).

Rolling up assets to a certain degree is preferred. However, in doing that, ESCOSA also check the weighted average lives of each asset class prior to a determination, to see if there has been any material change. If so, it updates the average life of the affected class. ESCOSA therefore considers it possible to achieve the same outcome as a line by line approach, by ensuring that any changes in average asset lives are captured.

ESCOSA considers that adopting a line by line approach for new assets could address the situation whereby new assets could impact the average life of an asset class. However, if a business sold a major existing asset that could also impact the average life and would not be captured in the calculation of regulatory depreciation. The Economic Regulator understands that this comment relates to the situation where the regulatory depreciation rates and the RAB are locked down for the regulatory period. In accordance with ESCOSA's other comments, it is apparent that, prior to the commencement of the next regulatory period and as part of its pricing investigation, ESCOSA checks whether depreciation rates need updating to account for any material changes in the asset base (for example, the addition or disposal of a major asset).

8.3.5 Queensland

In its most recent review of Seqwater's bulk water prices, the Queensland Competition Authority (QCA) recommended:

> For the assets included in the 1 July 2013 RAB, Department of Energy and Water Supply (DEWS) advised that the associated asset lives were as per the asset lives proposed by Seqwater. For capital

> expenditure added to the RAB since 1 July 2013, the QCA has accepted Seqwater's proposed asset lives (in the absence of relevant information).[43]

The Economic Regulator understands that the 1 July 2013 RAB was provided to QCA by Seqwater on an individual asset basis. However, given that existing assets were transferred from councils to Seqwater on 1 July 2008, the level of asset detail for pre-2008 assets differed depending on the originating council. As a result, the QCA has decided not to apply a line by line approach to the 1 July 2013 assets.

The Economic Regulator understands that, for assets added since 1 July 2013, Seqwater maintains a detailed asset register and derives the life, and therefore the depreciation rate, of each individual asset on a line by line basis.

8.3.6 Australian Energy Regulator

In relation to SA Power Networks' (SAPN) regulatory depreciation allowances, the Australian Energy Regulator (AER) considered alternative approaches to determining remaining asset lives and regulatory depreciation. In its final report, the AER accepted SAPN's proposed revised approach to determining remaining asset lives and depreciation for existing assets termed 'year by year tracking' rather than the AER's preference, up until that time, of a weighted average remaining life (WARL).[44]

The Economic Regulator notes that the AER was compelled to accept SAPN's proposal as it met the NER requirements. The Economic Regulator also notes footnote 13 of the AER's final decision which stated that "… year-by-year tracking ….does not involve tracking the depreciation on individual assets."[45]

The AER concedes that:

> The year-by-year tracking approach is a more complex approach than WARL or the average depreciation approach. In particular, the capex of each asset class will need to be tracked as disaggregated yearly categories over time, preserving these discrete categories across multiple regulatory control periods. These separately tracked expenditures can be thought of as asset sub-classes. The data therefore expands over time and models such as the AER's PTRM and RFM may need to be expanded to accommodate the increasing number of asset sub-classes or separate models developed. The benefit of this approach is the increased granularity and transparency of disaggregated year-by-year tracking of capex. However, it is more complex and costly to administer.[46]

8.3.7 Australian Competition and Consumer Commission

In its final decision in relation to pricing for State Water for the 2014-15 to 2016-17 pricing period[47], the ACCC determined the remaining economic lives for depreciating State Water's existing assets in the opening RAB and the standard economic lives for depreciating State Water's new assets associated with forecast net capex.[48]

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[43] Queensland Competition Authority, *SEQ Bulk Water Price Path 2015-18*, March 2015, page 37.

[44] Australian Energy Regulator, *Final Decision, SA Power Networks determination 2015–16 to 2019–20, Attachment 5 – Regulatory depreciation*, October 2015.

[45] Australian Energy Regulator, 2015, page 5-10.

[46] Australian Energy Regulator, *Final Decision, SA Power Networks determination 2015–16 to 2019–20, Attachment 5 – Regulatory depreciation*, October 2015, page 5-11.

[47] State Water (now WaterNSW) is a State-Owned Corporation established under the *WaterNSW Act 2014* and operates under an Operating Licence issued and monitored by the Independent Pricing and Regulatory Tribunal (IPART). The Corporation is NSW's bulk water supplier, river operator and one stop shop for licensing, water trades and water information (www.waternsw.com.au/about/who-we-are (accessed 13 September 2017)).

[48] ACCC, *Final decision on State Water pricing application 2014-15 to 2016-17*, page 40.

State Water proposed standard asset lives and remaining asset lives of 102.37 years and 61.3 years respectively for new assets and existing assets. These asset lives were applied to State Water's depreciable asset classes, as shown in Table 8.5.

Table 8.5 State Water - standard asset lives and remaining asset lives[49]

Description	Standard asset life (years)	Remaining asset life (years)
Dams	102.37	61.3
Storage reservoirs	102.37	61.3
Revenue meters	102.37	61.3
IT systems	102.37	61.3
Plant & machinery	102.37	61.3
Office equipment	102.37	61.3
Buildings	102.37	61.3
Vehicles	102.37	61.3

The Economic Regulator notes that, in its advice to the ACCC, Deloitte referred to a key objective for regulators in allocating assets to asset classes as ensuring that the number of asset classes are manageable such that large and complex asset models are not necessary. Deloitte went on to indicate that it was satisfied that the number of State Water's asset classes (10) and the type of asset classes appropriately reflected the nature of State Water's asset base.[50]

However, the ACCC considered it reasonable to vary the remaining asset life across valleys and applied Deloitte's recommended remaining asset lives and standard asset lives on a per valley basis. The ACCC concluded that to break State Water's asset lives down further by asset class would be a costly exercise for no tangible benefit.

The ACCC consequently determined, on a per valley basis, remaining economic lives for existing assets that varied between 40.9 years and 63.6 years. The ACCC also determined standard economic lives for new assets in State Water's depreciable asset classes ranging from five years for vehicles and six years for IT systems to 60 years for buildings and 100 years for dams.

The Economic Regulator understands that State Water maintains a single RAB and accounts for regulatory depreciation by summing the depreciation relating to each asset class.

8.4 Principles

Noting the information outlined in Section 8.3, the Economic Regulator considers that the calculation of regulatory depreciation needs to be assessed against the following principles:

1. Administrative simplicity and practicality - consideration needs to be given to the ease with which adjustments can be made by TasWater and verified by the Economic Regulator.

2. Consistency - to avoid price instability the treatment of regulatory depreciation between regulatory periods should be consistent. The decisions made by other regulators should also be considered.

[49] Australian Competition and Consumer Commission, *Draft Decision on State Water Pricing application 2014-15 to 2016-17*, 5 March 2014, Table 6-4.

[50] Deloitte Access Economics, *Final report - asset lives for State Water's 2014 pricing proposal, For the Australian Competition and Consumer Commission, 9 December 2013*, pages 9-10.

3. Intergenerational equity - customers enjoying the benefits provided by an asset should contribute to the cost of that asset.

4. Data integrity - regulatory depreciation calculations should be based on sound and reliable data sources.

8.5 Discussion

Having regard to the principles outlined in Section 8.4, the Economic Regulator notes as follows:

- Existing assets transferred to the regional corporations and subsequently to TasWater included a substantial number of bulk water assets from Esk Water, North West Regional Water Authority and Hobart Water valued at $290 million ($460 million in 2016-17$)[51] which had been gifted to the councils by the State Government.

- Assets were also gifted by developers to councils prior to the transfer of those assets to the regional corporations, and then to TasWater. In its 2015 Final Investigation Report the Economic Regulator noted that:

> …[it had] not attempted to exclude third party capital contributions made before the previous regulated entities were formed from $RAB_{EXISTING}$ due to difficulties in ascertaining the value of those contributions.[52]

- Condition of existing assets - Depreciated Optimised Replacement Cost (DORC) asset values and line by line depreciation require up to date values and accurate condition based assessments.[53] With respect to TasWater's existing assets the Economic Regulator notes in particular that:

  (i) The asset condition assessment, conducted in 2009 by GHD and Deloitte, was made at a high level. More recently the TAO noted that:

> Our testing identified the selected assets were depreciated based on the useful lives in the GHD reports or the ATO rates. However, the majority of lives could only be agreed to useful life ranges for an asset type eg waste water pipes had a range of between 30 and 140 years. This matter was discussed with TasWater's management, who advised that up to 30 June 2013, lives were input by former water corporations' staff and *there was inadequate information in the asset register to directly relate the useful life to the specific GHD information*. In addition, *we were advised that the GHD/ATO rates were adopted as a guide only, to align useful lives in TasWater's taxation, statutory accounting and regulated asset registers* [emphasis added].[54]

[51] Treasurer's submission to the Legislative Council Select Committee, September 2017, page 3.

[52] Tasmanian Economic Regulator, *2015 Price Determination Investigation - Regulated Water and Sewerage Services in Tasmania, Final Report*, page 31.

[53] Deloitte Access Economics, Final report, asset lives for State Water's 2014 pricing proposal, For the Australian Competition and Consumer Commission, 9 December 2013, pages 2-4.

[54] Tasmanian Audit Office, *Review of the Tasmanian Water and Sewerage Corporation's 2015-16 Regulatory Financial Statements*, page 15.

(ii) The TAO went on to recommend that:

> TasWater undertake a review of the depreciation rates/useful lives applied to its infrastructure assets. The recommendation is based on the age of the GHD information (which as prepared as at 1 July 2009) and the general nature of the ATO useful lives. A review could include adopting a consistent basis for the depreciation expense calculation, moving away from rates provided by both GHD and the ATO.[55]

(iii) In 2006-07, the Government Prices Oversight Commission (GPOC) reviewed asset condition assessments carried out by the councils. These assessments were to form the basis for the condition of the assets transferred to the regional corporations and, subsequently, to TasWater. The TAO's analysis[56] of GPOC's findings is set out in Table 8.6.

Table 8.6 Completion of asset condition assessments by councils - 2006-07

Category	No. of full condition assessments completed	No. of partial condition assessments completed
Water	8/29	8/29
Sewerage	7/29	9/29
Water and Sewerage	6/29	10/29

(iv) In its recent performance audit the TAO noted that, at the commencement of the water and sewerage reforms:

> … [the] overall knowledge of the condition of the state's water and sewerage infrastructure assets was inadequate and insufficient to properly inform effective asset management at a state-wide level.[57]

- The QCA calculates regulatory depreciation on assets transferred to Seqwater from councils on a weighted average basis due to the differing level of detail held by the former council owners about those assets even though information about those assets is available on a line by line basis.

8.6 Economic Regulator's draft conclusions

After considering TasWater's proposal, the approaches to calculating regulatory depreciation in other jurisdictions and its own research and analysis, the Economic Regulator has concluded that:

- There is no consistent approach to regulatory depreciation between regulators:
  - Several Australian regulators apply a weighted average approach to a number of asset classes with the classes designed to reflect the nature of the regulated entity's asset base.
  - A number of Australian regulators (for example, the QCA and the ICRC) apply a weighted average approach to calculating regulatory depreciation on existing assets and a line by line approach to calculating regulatory depreciation on new assets.

[55] Ibid, page 18.

[56] Tasmanian Audit Office, *Water and Sewerage in Tasmania - assessing the outcomes of industry reform*, 14 November 2017, page 56.

[57] Ibid, page 56.

- In terms of intergenerational equity, the ESC has concluded that, using an NPV analysis, the impact on businesses is neutral irrespective of whether a line by line approach or a weighted average approach is applied. However, the question remains as to how much should future customers pay relative to current customers? TasWater claims that the application of a value based weighted average approach produces longer average asset lives and, therefore, lower regulatory depreciation resulting in current customers unfairly benefiting at the expense of future customers. However, it could be equally argued that applying a line by line approach produces relatively shorter asset lives and therefore higher regulatory depreciation meaning that future customers benefit relative to current customers.
- While regulators generally have a preference for greater detail in relation to regulatory depreciation this needs to be balanced against administrative simplicity and have regard to the veracity of the available data. Applying a line by line approach to almost 260 000 assets would be complex and comes with substantial administrative costs for both TasWater and the Economic Regulator in the event that adjustments have to be made. IPART's approach of maintaining and rolling forward 30 RABs and the AER's year by year tracking approach are relatively complex.
- It is not considered sound regulatory practice to retrospectively change the calculation of regulatory depreciation on existing assets. This is particularly the case given the lack of detailed condition assessments and the high level nature of GHD's/Deloitte's review of those assets in 2009. Calculating regulatory depreciation on existing assets on a line by line basis relies on data sourced from this high level review. Additionally, as outlined above, TasWater's knowledge about the condition of the assets transferred from councils is not complete. The Economic Regulator therefore considers that the application of a weighted average approach is more appropriate than a line by line approach to calculating regulatory depreciation for existing assets.
- The Economic Regulator does not consider TasWater's reliance on the AER's decision on SA Power Networks' regulatory depreciation allowances to support its preference for a line by line approach to be valid as the AER specifically states that its year-by-year tracking methodology does not involve tracking the depreciation on individual assets.
- The circumstances in relation to Seqwater's assets is not dissimilar to TasWater and its predecessors' circumstances as, in both cases, assets were transferred from former council owners where the details about those assets were less detailed than would have been preferred.
- The bulk water assets that were transferred to the regional corporations and then to TasWater were not paid for by customers at the time of gifting to councils.
- The Economic Regulator does not doubt the accuracy of TasWater's Regulatory Asset Register as verified by the TAO during its audits of TasWater's regulatory financial statements. What is of concern to the Economic Regulator is the veracity of the original information recorded in the Register. Once again the Economic Regulator is not questioning the conduct of, or the outcomes from, the GHD/Deloitte review from 2009. The issue is the lack of knowledge about the condition of the assets that were transferred and the consequential requirement for regular condition assessments to be carried out if a DORC asset valuation is to be relied upon and maintained. As the Economic Regulator understands it, while TasWater has carried out asset condition assessments, due to the number of assets this is a massive task, and one that to date, has not been completed.
- As shown in Table 8.2, TasWater's proposed line by line regulatory depreciation rates for new assets are much higher (and the corresponding useful lives much lower) than the regulatory

depreciation rates calculated using a weighted average for the second regulatory period. TasWater's proposed rates are much higher than the rates for similar assets held by service providers in other jurisdictions. As Arup observed in its Draft Report, this is due to TasWater investing in relatively shorter life assets such as SCADA, IT systems and minor assets. The Economic Regulator has however reviewed TasWater's Regulatory Asset Register and is satisfied as to the reasonableness of TasWater's proposed lives in relation to new assets. In respect to its audits of TasWater's regulatory financial statements the TAO has indicated that TasWater's useful lives were within ranges provided by GHD and the Australian Taxation Office.

8.7 Economic Regulator's draft proposals

The Economic Regulator's draft proposals in relation to regulatory depreciation are explained below.

8.7.1 Existing assets

The Economic Regulator proposes that regulatory depreciation continue to be calculated on existing assets using a value weighted average approach as used for the second regulatory period. Table 8.7 outlines the Economic Regulator's proposed allowances for regulatory depreciation in relation to existing assets together with the associated regulatory depreciation rate.

Table 8.7 Existing assets - Economic Regulator's proposed regulatory depreciation for the third regulatory period ($'000s)

	2018-19	2019-20	2020-21
TasWater proposed			
Water	37 282	37 513	37 764
Sewerage	35 647	35 376	34 927
	72 929	*72 889*	*72 691*
Regulator's proposal			
Water	23 897	23 815	23 736
Sewerage	26 072	25 986	25 906
	49 969	49 801	49 642
Reductions	**- 22 960**	**- 23 088**	**- 23 049**
Depreciation rate	**1.95%**	**1.94%**	**1.93%**

The Economic Regulator intends to require TasWater to calculate regulatory depreciation for existing assets using a value weighted average approach.

8.7.2 New assets

The Economic Regulator proposes that regulatory depreciation be calculated on new assets using a line by line approach. Table 8.8 outlines the Economic Regulator's proposed allowances for regulatory depreciation in relation to new assets.

Table 8.8 New assets - Economic Regulator's proposed regulatory depreciation for the third regulatory period ($'000s)

	2018-19	2019-20	2020-21
TasWater proposed			
Water	20 127	22 659	26 308

Sewerage	16 911	19 358	20 860
	37 038	*42 017*	*47 168*
Regulator's proposal			
Water	16 773	19 033	20 402
Sewerage	19 963	22 278	25 730
	36 737	41 311	46 131
Reductions	- 301	- 706	- 1 037

The Economic Regulator intends to require TasWater to calculate regulatory depreciation for new assets using a line by line approach.

The Economic Regulator also intends to require TasWater to apply the regulatory depreciation allowances for existing assets and new assets, as set out in Tables 8.7 and 8.8 respectively.

9 WEIGHTED AVERAGE COST OF CAPITAL

The building block approach to determining the maximum allowed regulated revenue (as discussed in Section 1.5.1) requires a return on capital. As discussed in Chapter 10, the return on capital requires a rate of return to be applied to capital invested in the regulated business. The rate of return used is a WACC.

The WACC is an expected benchmark cost of capital and represents the future returns for an efficiently managed business. The Economic Regulator uses a benchmark WACC rather than a WACC calculated using the regulated business' actual financial statements on the premise that a benchmark WACC incentivises the business to efficiently finance its operations.

The WACC is calculated as the cost of equity multiplied by the proportion of equity used to finance the enterprise plus the cost of debt multiplied by the proportion of debt used to finance the business with the basic formula as follows:

$$\frac{E}{D+E} * Re + \frac{D}{D+E} * Rd$$

Where:

Re	=	Return on Equity (costs of equity) is conventionally quoted as a **post**-tax value
Rd	=	Return on Debt (the cost of debt) is conventionally quoted as a **pre**-tax value.
D	=	Proportion of business funded by debt
E	=	Proportion of business funded by equity

However, the WACC can be calculated on a vanilla, real or nominal, pre-tax or post-tax basis resulting in a number of different WACC types and formulae.

As the WACC is a forward looking value it incorporates a degree of forecasting with the values and derivation of some of the components subject to ongoing vigorous debate between academics, regulators, economists and finance practitioners. Consequently, the appropriate value and or method to derive the WACC component may involve a degree of professional judgement on the part of the Economic Regulator.

9.1 Statutory requirements

Section 68(1A) of the Industry Act requires the rate of return, on assets transferred to the previous regulated entities before 1 July 2011, to incorporate a commercial rate of return on debt and a pre-tax rate of return of three percent on equity. For all other regulated assets, the rate of return must incorporate a commercial risk based rate of return on both debt and equity.

Therefore section 68(1A) effectively requires two separate WACCs, one for assets transferred to the previous regulated entities before 1 July 2011 (referred to as existing) and another for assets purchased or constructed by the previous regulated entities and now TasWater after 1 July 2009 (referred to as new).

9.2 Type of WACC

The Economic Regulator used a real pre-tax WACC For the first and second water and sewerage price investigations. Prior to the commencement of this investigation, the Economic Regulator proposed in the PSP Guideline it released in April 2016, to use a pre-tax real WACC for the third regulatory period.

A pre-tax WACC means that the post-tax return on equity is grossed up by an applicable tax rate to become a pre-tax return on equity. Therefore both the return on debt and the return on equity are pre-tax values. This results in a higher WACC, all other things being equal, which results in a regulated business receiving a higher maximum allowed regulated revenue which must be used to cover the businesses tax liabilities. A real WACC factors in inflation and is therefore lower, all other things being equal, than a nominal WACC which does not account for inflation.

TasWater proposed the use of a post-tax nominal vanilla WACC for the third regulatory period. TasWater made this proposal on the basis that the AER uses a post-tax vanilla WACC in its Post Tax Revenue Model. However, unlike the AER, which updates the WACC parameters annually, TasWater proposes that the WACC determined during the price investigation apply for the entire regulatory period and is not updated during the period. A post-tax nominal vanilla WACC includes a post-tax return on equity and a pre-tax return on debt and necessitates the inclusion of a tax allowance and inflation adjustment in the calculation of the MARR. A discussion of the required tax allowance and inflation adjustments are included in Chapter 11.

As a post-tax nominal vanilla WACC is the most common form of WACC used by other Australian regulators, the Economic Regulator intends accepting TasWater's proposal to use this form of WACC for the third regulatory period.

The Economic Regulator intends to accept TasWater's proposal to apply a post-tax nominal vanilla WACC for the third regulatory period.

9.3 WACC formulae

The following sections outline the formulae for the $WACC_{NEW}$ and the $WACC_{EXISTING}$.

9.3.1 $WACC_{NEW}$

The post-tax nominal vanilla $WACC_{NEW}$ is calculated using the following formula:

$$WACC_{NEW} = R_d G + R_e(1-G)$$

Where:

R_d	=	Cost of debt
	=	RFR + DRP + debt issuance costs
RFR	=	Risk free rate
DRP	=	Debt risk premium
G	=	Gearing ratio
R_e	=	Cost of equity
	=	RFR + β_e MRP
β_e	=	Equity beta
MRP	=	Market risk premium

9.3.2 $WACC_{EXISTING}$

The post-tax nominal vanilla WACC for existing assets $_{EXISTING}$ is calculated using the following formula:

$$WACC_{EXISTING} = RdG + EXISTING\ Re(1-G)$$

Where:

EXISTING Re = Z[1-t(1-γ)]

Z = Statutory nominal pre-tax return on equity = 3%

t = Corporate tax rate = 30%

γ = Gamma

9.4 TasWater's proposed WACCs

TasWater's proposed WACC components and the resultant WACCs are included in Table 9.2.

Table 9.2 TasWater's proposed WACC

WACC component	Value
Gearing	60%
Risk free rate	3.50%
Debt risk premium	2.49%
Debt issuance	0.10%
Cost of debt (pre-tax)	6.09%
Market risk premium	6.50%
Equity beta	0.70
Statutory return on equity $_{(Existing)}$ (pre-tax nominal)	3.00%
Gamma	0
Cost of equity$_{(New)}$ (post-tax)	8.05%
$WACC_{EXISTING}$	**4.49%**
$WACC_{NEW}$	**6.87%**

The following sections outline TasWater's rationale for its proposed WACC components together with the Economic Regulator's assessment of those components and the Economic Regulator's proposed WACC components and resultant WACCs.

9.4.1 Gearing

Gearing refers to the percentage of capital funded by debt. In determining the level of gearing (i.e. debt financing) regulators generally use a benchmark gearing ratio to ensure customers do not bear the cost associated with an inefficient financing structure.

TasWater has not proposed to change the gearing ratio of 60 per cent used for the second regulatory period. The Economic Regulator intends to accept TasWater's proposed 60 per cent gearing ratio.

The Economic Regulator intends to accept TasWater's proposed gearing ratio of 60 per cent in calculating the WACCs for the third regulatory period.

9.4.2 Risk free rate

The risk free rate refers to a theoretical rate of return of an investment with zero risk and it is used to calculate both the cost of debt and the cost of equity. It is generally accepted practice to use a government security as proxy for the risk free rate, with 10-year Commonwealth Government bonds commonly used.

For the second regulatory period, the Economic Regulator calculated the risk free rate the midpoint of the 40 trading day average and a 10-year weighted average of 10-year Commonwealth Government bonds, with the weighting placing greater weigt on more recent data.

TasWater proposed the risk free rate to be calculated as the mid point of the 10-year simple average and a 40 trading day average of 10-year Commonwealth Government securities. Based on its preferred method, TasWater proposed a risk free rate of 3.5 per cent.

As discussed in section 9.4.4, the Economic Regulator has proposed a modified method to calculate the risk free rate. Based on that method, and using data as at 1 November 2017, the Economic Regulator proposes a risk free rate of 2.90 per cent.

9.4.3 Cost of Debt

The cost of debt is the sum of the risk free rate (see Section 9.4.2 above), a debt risk premium (DRP) and debt issuance costs.

9.4.3.1 Debt Risk Premium

The Economic Regulator used the RBA's corporate credit spread data to calculate the debt risk premium (DRP) for the second regulatory period and TasWater proposes continuing to use same the data set to calculate the debt risk premium for the third regulatory period. TasWater proposes to use the same approach for calculating the debt risk premium as for the risk free rate namely: the mid point of the 10-year simple average and an average of the last two observations of the RBA's monthly corporate credit swap data in place of a 40 trading day average. Using this method, TasWater proposed a debt risk premium of 2.49 per cent.

The Economic Regulator accepts TasWater's proposal to use the RBA's corporate credit spread data to calculate the debt risk premium but, as discussed in section 9.4.4, the Economic Regulator proposes a modified method to calculate the risk free rate. Based on that method, and using data from 1 November 2017, the Economic Regulator proposes a debt risk premium of 2.03 per cent.

9.4.3.2 Debt issuance costs

The debt issuance costs compensate an entity for costs related to raising or refinancing debt.

TasWater proposed the inclusion of debt issuance costs since a benchmark efficient company would incur debt issuance costs to raise or refinance debt. TasWater proposed a debt issuance cost allowance of 0.1 per cent.

TasWater noted that the Queensland Competition Authority (QCA), the Independent Pricing and Regulatory Tribunal (IPART) and the Economic Regulatory Authority of Western Australia (ERAWA) include a debt issuance cost allowance of between 0.108 per cent and 0.125 per cent in the cost of debt.

The Economic Regulator proposes to accept the inclusion of debt issuance costs of 0.1 per cent in the cost of debt calculation.

The Economic Regulator intends to accept TasWater including debt issuance costs of 0.1 per cent in calculating the WACCs for the third regulatory period.

9.4.4 Method to calculate risk free rate and debt risk premium

For the second regulatory period, the Economic Regulator applied the same calculation method to determine the RFR and the DRP. The method used a 40 trading day average combined with a 10-year weighted average which placed greater weight on more recent data.

TasWater accepts using a combination of a 40 day trading average and a 10-year component, but proposed a simple average instead of the Economic Regulator's weighted average. TasWater described the effect of the Economic Regulator's method has a similar effect to a 5-7 year average. TasWater contends that its debt maturity profile shows that approximately 10 per cent of its debt is refinanced each year for the next 10 years.

The cost of debt component of the WACC has been subject to considerable debate in recent years. A number of events have contributed to the debate including, changes in 2013 to the rate of return provisions of the National Electricity Rules and the National Gas Rules, and the post-GFC economy which has seen interest rates decrease significantly.

There is no consistent approach used by regulators to calculate the RFR or DRP. The QCA, ERA and the ACT Treasurer's Industry Panel[58] (Industry Panel) contend that finance theory dictates that the most current rate is most appropriate rate. IPART uses a combination of current and historical rates to calculated the risk free rate, specifically the mid-point of the 40 day average of the yields on 10-year Commonwealth Government Securities and the ten year simple average of yields on 10-year Commonwealth Government Securities

The AER, ESC and ESCOSA use a trailing average portfolio approach to determine the cost of debt which replaces or will replace the risk free rate plus debt premium approach. The trailing average approach assumes that every year, one - tenth of the debt of a business is refinanced. As the return on debt is an average of the interest rates over a period of ten years, this approach leads to a relatively stable estimate of the risk free rate over time. The trailing average approach involves recalculating the cost of debt for each year of the regulatory period and, therefore, requires prices to be reviewed annually.

The Economic Regulator agrees with the QCA, ERA and the Industry Panel that past interest rates are less relevant than current market rates and, consistent with efficient market theory, the most recent market prices incorporate all information available regarding future prices and, therefore, theoretically represent the most efficient expected cost of debt.

However, the Economic Regulator considers that a cost of debt that incorporates a historical component is appropriate given that a benchmark firm would have an efficient debt financing and risk management policy and such a policy would be based on issuing debt at different points in time with a staggered maturity profile. In addition, businesses opportunistically restructure debt. It therefore seems unlikely an efficiently managed business will have a fixed maturity and/or refinancing profile i.e. it will most likely have a mix of current and past interest rates and maturity profiles. The Economic Regulator considers that incorporating a historical component in the cost of debt is beneficial in that it may reduce the volatility in the WACC, which in turn may lead to less price volatility.

[58]Industry Panel (2015) Draft Report: Review of the Independent Competition and Regulatory Commission's 2013 Price Direction for Regulated Water and Sewerage Services in the ACT, Canberra.

As the Economic Regulator does not propose recalculating the required revenue annually it does not consider the trailing average method appropriate. The Economic Regulator considers historical rates are over represented in IPART's approach.

For the second price investigation, the Economic Regulator developed a modified version of the IPART approach where the historical component is a time weighted average over ten years rather than a ten-year simple average. The Economic Regulator concluded that a cost of debt methodology that incorporates some degree of historical rates but is predominately weighted towards current market rates would provide regulated businesses with the appropriate signals regarding the need to make efficient investment decisions.

The Economic Regulator does not intend to accept TasWater's proposal to use a simple 10-year average in calculating either the RFR or DRP with the Economic Regulator proposing to use a slightly modified version of the method that applied for the second regulatory period.

The Economic Regulator proposes to use the annual averages for the past nine years plus the current point in time rate to make up the ten year refinancing profile. In maintaining the assumption of a ten year refinancing profile the changes reflect that rates ten years ago are irrelevant by the first year of the regulatory period. The changes place a greater weighting on the forward looking point in time rate.

The Economic Regulator therefore proposes the following approach to determine the RFR:

1. Calculate the 40 trading day average of 10-year Commonwealth Government Securities.
2. Calculate the daily average of the last nine, eight, seven, six, five, four, three, two, one year of yields on the 10-year Commonwealth Government Securities used in step 1.
3. Calculate the average of the value in step 1 and the values in step 2.
4. Calculate the midpoint of the values calculated in steps 1 and 3.

Similarly, the Economic Regulator proposes the same approach to determine the DRP but with the RBA's monthly corporate credit swap data.

Given the lack of consistency or consensus among jurisdictional regulators regarding the calculation of the cost of debt, the Economic Regulator considers its proposed method is an appropriate compromise between the forward looking aspects of the point in time methodology and the actual borrowing costs aspect of incorporating a historical component.

The Economic Regulator intends to require TasWater to calculate the Risk Free Rate and Debt Risk Premium using the method specified in Section 9.4.4 of this Draft Report for the third regulatory period.

9.4.5 Market risk premium

The market risk premium (MRP) is the additional return for investing in a risky market portfolio over the risk free rate. The Economic Regulator used a MRP of 6 per cent for the first and second regulatory periods.

TasWater proposed a MRP of 6.5 per cent based on the premise that state-owned regulated network monopolies should have the same MRP. The AER applied a MRP of 6.5 per cent for TasNetworks and other electricity network business.

The Economic Regulator proposes to accept TasWater's proposed MRP of 6.5 per cent for the third regulatory period based on the AER's review of the MRP in its *Better Regulation Explanatory Statement, Rate of Return Guideline*.

The Economic Regulator intends to accept TasWater's proposal to apply a Market Risk Premium of 6.5 per cent in calculating the WACCs for the third regulatory period.

9.4.6 Equity beta

The equity beta measures the risk (volatility) of the returns a business's assets relative to the financial market as a whole. It is a statistical value and is the R squared of the covariance of the returns on the assets of the business with returns of the market. Specifically the equity beta represents only whole-of-market related risk and should not reflect any firm-specific risk.

TasWater proposed an equity beta of 0.70 based on the recent decisions of other regulators in particular the AER's decision to use an equity beta of 0.70 for TasNetworks' distribution business.

As there are no listed monopoly water and sewerage businesses on the Australian Stock Exchange, regulators have used listed energy businesses as comparators. The AER, in its *Appendices to the Explanatory Statement Rate of Return Guideline 2013*, identified a number of possible comparator businesses for regulated network providers, in order to justify an equity beta of 0.70 for regulated network providers.

The Economic Regulator does not accept TasWater's proposed equity beta of 0.70. TasWater's proposal is based on regulatory precedent with TasWater citing a number of recent decisions by other Australian regulators and specifically referring to the AER's decision for TasNetworks' distribution business.

The Economic Regulator considers the equity beta should be as close as possible to that of a benchmark efficient business providing the same services and with the same risks as TasWater but some of the comparator businesses used by the AER are not sufficiently similar to a monopoly water and sewerage business. For example, the Alinta group that owns retail businesses operating in unregulated markets and the Hastings Diversified Utilities Fund, which is a fund manager, specialising in infrastructure. The Economic Regulator notes that a number of the comparator business have not only been delisted for a number of years but were only listed for a short period compared to other comparator businesses. Frontier Economics[59] calculated a 10-year average beta for the businesses that were used by the AER for its "primary" range for beta noting that some regressions used less than ten years of data due to shorter listing periods. The average for the monthly beta is 0.62 and the average for the weekly beta is 0.63. After excluding the delisted businesses, the average monthly beta is 0.57 while the average "weekly beta" is 0.49. The Economic Regulator considers that this comparator group, which comprises currently listed Australian energy distribution businesses i.e. APA Group, Ausnet Services, Duet Group[60] and Spark Infrastructure are the best comparators for a regulated monopoly water and sewerage business.

The Economic Regulator reviewed the findings of the Industry Panel for international comparisons. The Industry Panel calculated the equity betas for 16 listed water and sewerage business in the United States and the United Kingdom with the Industry Panel calculating a median equity beta of 0.53 and an average equity beta of 0.69.

The Industry Panel reviewed Australian regulated water business price reviews and found that since 2010, regulators have used equity beta's ranging from 0.55 to 0.8 with the majority using an equity beta of 0.65 or 0.70. The Economic Regulator used an equity beta of 0.65 for the second regulatory period and, based on the above discussion, proposes to maintain an equity beta of 0.65 for the third regulatory period.

[59] Frontier Economics, Estimating the equity beta for the benchmark efficient entity, January 2016.

[60] Duet Group is included in the listed group but was subsequently delisted in May 2017.

The Economic Regulator intends to require TasWater to apply an equity beta of 0.65 in calculating the WACCs for the third regulatory period.

9.4.7 Gamma

Gamma is the value of dividend imputation credits, which is the product of the distribution rate and the utilisation rate. The distribution rate is the ratio of the amount of distributed imputation credits to the amount of company tax paid. The utilisation rate is proportion of investors in the market that utilise imputation credits. For the second regulatory period, the Economic Regulator used a gamma of 0.5.

TasWater considers that because its council shareholders cannot benefit from imputation credits the utilisation rate is zero and consequently gamma should be zero. TasWater also considers that the 3 per cent pre-tax cost of equity specified in the WSI Act prevents it receiving a cost reflective price for its assets and applying a non-zero gamma will reduce its tax allowance leading to an under recovery of costs since imputation credits have no value to TasWater's shareholders.

The Economic Regulator considers that the underlying premise of economic regulation is to determine the revenue for a benchmark efficiently managed *privately* owned business. Therefore, the fact that the TasWater is publicly owned should not be factored into the calculation of the required revenue i.e. TasWater should not benefit from its public ownership.

The Economic Regulator considers that the AER's review of gamma for Distribution Network Service Providers is a comprehensive review of the value of imputation credits. The Economic Regulator does not accept TasWater's proposal for gamma to equal zero and, based on the AER's findings, the Economic Regulator proposes using a gamma of 0.4.

The Economic Regulator intends to require TasWater to apply a gamma of 0.4 in calculating the WACCs for the third regulatory period.

9.5 Economic Regulator's proposed WACCs

Based on the discussion in Section 9.4, the Economic Regulator's proposed WACC components, calculated using data available as at 1 November 2017, and the calculated existing and new asset WACCs are, as set out in Table 9.3.

Table 9.3 Economic Regulator's proposed WACC

WACC component	Value
Gearing	60%
Risk free rate	2.90%
Debt risk premium	2.03%
Debt issuance	0.10%
Cost of debt (Pre-tax)	5.02%
Market risk premium	6.50%
Equity beta	0.65
Statutory return on equity$_{(Existing)}$ (pre-tax nominal)	3.00%
Gamma	0.4
Cost of equity$_{(New)}$(post-tax)	7.12%
WACC$_{EXISTING}$	**4.00%**
WACC$_{NEW}$	**5.86%**

10 RETURN ON CAPITAL

As noted in Section 1.5.1 the return on capital is a component of TasWater's MARR with the value of capital invested in a regulated business equal to the value of the RAB. The RAB is comprises of the assets used to provide regulated services.

The value of the RAB is adjusted each year to allow for capex, depreciation, third party contributions, assets disposals and inflation. Therefore, the return on the capital invested in a regulated business is calculated as the RAB multiplied by an appropriate WACC.

As discussed in section 9.1 of this Draft Report, section 68(1A) of the WSI Act effectively creates two groups of assets, one for assets transferred to the previous regulated entities before 1 July 2011 (referred to as existing assets) and another for assets purchased or constructed by the previous regulated entities, and now TasWater, after 1 July 2009 (referred to as new assets). This necessitates two separate RABs, one for existing assets ($RAB_{EXISTING}$) and another for new assets (RAB_{NEW}).

10.1 RAB

Section 7.2 of the PSP Guideline specifies how each RAB should be rolled forward each year to account for capex, regulatory depreciation, third party contributions, disposals and inflation. The RAB values used to calculate the return on capital are the average of the each RAB's opening and closing balance for each year of the regulatory period.

TasWater's proposed RAB values for calculating the return on capital are provide summarised in Table 10.1.

Table 10.1 TasWater's proposed RAB values for calculating return on capital ($'000s)

	2018-19	2019-20	2020-21.
Existing assets	2 498 482	2 481 739	2 464 260
New assets	664 963	779 445	890 298

In its proposed Price and Service Plan, TasWater calculated RAB roll forward values from 2015-16 using a line by line depreciation approach which is discussed in Chapter 8.

The Economic Regulator does not intend to accept TasWater's proposal to apply a line by line approach to calculating regulatory depreciation for existing assets. The Economic Regulator does however propose using a line by line approach for new assets. This means that the Economic Regulator's regulatory depreciation value for the $RAB_{EXISTING}$ differs significantly from that proposed by TasWater.

In addition, TasWater based its RAB vales on its proposed capex. As discussed in Chapter 6, the Economic Regulator is proposing reductions in TasWater's capex to account for gifted assets and intends accepting Arup's recommendations regarding capex. These proposals result in lower capex values than those proposed by TasWater.

The Economic Regulator has rolled forward the RAB from the start of the second regulatory period, to the end of the third regulatory period. The values for the period from 1 July 2015 to 30 June 2017 inclusive are based on actual values while the values for the period 1 July 2017 to 30 June 2021 inclusive are forecast values. Table 10.2 shows the RAB roll forward applying the Economic Regulator's intended approach to regulatory depreciation and capex.

Table 10.2 Economic Regulator's RAB roll forward ($'000s)

	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21
Inflation applied	1.50%	1.00%	1.90%	2.25%	2.25%	2.25%
Existing Sewerage Assets						
Closing balance from previous year	1 242 003	1 226 914	1 207 214	1 198 929	1 202 008	1 204 809
Opening Balance Adjusted for inflation	1 260 633	1 239 184	1 230 151	1 225 904	1 229 053	1 231 917
Disposals	1 745	525	0	0	429	0
Depreciation rate	2.54%	2.54%	2.54%	1.95%	1.94%	1.93%
Depreciation	31 974	31 445	31 222	23 897	23 815	23 736
Closing balance	1 226 914	1 207 214	1 198 929	1 202 008	1 204 809	1 208 181
Existing Water Assets						
Closing balance from previous year	1 347 913	1 333 901	1 315 252	1 308 064	1 311 394	1 314 914
Opening Balance Adjusted for inflation	1 368 132	1 347 241	1 340 242	1 337 495	1 340 901	1 344 500
Disposals	1 965	196	554	30	0	0
Depreciation rate	2.36%	2.36%	2.36%	1.95%	1.94%	1.93%
Depreciation	32 265	31 793	31 623	26 072	25 986	25 906
Closing balance	1 333 901	1 315 252	1 308 064	1 311 394	1 314 914	1 318 594
New Sewerage Assets						
Closing balance from previous year	174 792	204 900	231 458	272 489	321 006	362 746
Opening Balance Adjusted for inflation	177 414	206 949	235 856	278 620	328 229	370 908
Capex	57 128	49 603	59 405	61 615	56 135	33 468
Disposals	439	141	0	0	59	0
Third Party Contributions	15 008	10 226	9 148	2 456	2 526	2 639
Depreciation (Line by line)	14 195	14 727	13 623	16 773	19 033	20 402
Closing balance	204 900	231 458	272 489	321 006	362 746	381 334
New Water Assets						
Closing balance from previous year	251 018	293 204	339 386	391 792	446 355	504 330
Opening Balance Adjusted for inflation	254 783	296 136	345 834	400 607	456 398	515 677
Capex	73 749	72 202	74 292	70 060	74 660	135 806
Disposals	489	40	27	17	0	0
Third Party Contributions	20 039	12 984	11 792	4 331	4 450	4 655
Depreciation (Line by line)	14 801	15 928	16 516	19 963	22 278	25 730

Closing balance	293 204	339 386	391 792	446 355	504 330	621 098

Table 10.3 shows the RAB values used to calculate the return on capital based on the information provided in Table 10.2.

Table 10.3 Economic Regulator's RAB values for calculating return on capital ($'000s)

	2018-19	2019-20	2020-21
Existing assets	2 538 401	2 544 838	2 551 596
New assets	723 294	825 851	944 508

10.2 Return on capital

Based on TasWater's WACC values in Table 9.2 and the RAB values in Table 10.1, TasWater's return on capital for each year of the third regulatory period is provided in Table 10.4.

Table 10.4 TasWater's proposed return on capital ($'000s)

	2018-19	2019-20	2020-21
Existing assets			
RAB	2 498 482	2 481 739	2 464 260
WACC	4.49%	4.49%	4.49%
Return on Capital	112 224	111 472	110 687
New assets			
RAB	664 963	779 445	890 298
WACC	6.87%	6.87%	6.87%
Return on Capital	45 684	53 549	61 165
Total return on Capital	157 908	165 021	171 852

Note: Figures in this table may not sum to the total due to rounding.

Based on the Economic Regulator's WACC values in Table 9.3 and the RAB values in Table 10.3, the Economic Regulator's return on capital for each year of the third regulatory period is provided in Table 10.5.

Table 10.5 Economic Regulator's proposed return on capital ($'000s)

	2018-19	2019-20	2020-21
Existing assets			
RAB	2 538 401	2 544 838	2 551 596
WACC	4.00%	4.00%	4.00%
Return on Capital	101 481	101 738	102 008
New assets			
RAB	723 294	825 851	944 508
WACC	5.86%	5.86%	5.86%
Return on Capital	42 403	48 415	55 372
Total return on capital	143 884	150 154	157 380

Note: Figures in this table may not sum to the total due to rounding.

11 REVENUE REQUIREMENT

The maximum allowed regulated revenue is used to determine the maximum prices that TasWater can charge for regulated tariffs such that if the amount for each of the regulated prices, fees and charges discussed in Chapter 13 were to be applied to the demand for each service, the resultant aggregate revenue would not exceed the maximum allowed regulated revenue.

11.1 TasWater's proposed regulated revenue

TasWater's proposed building block components and estimated maximum allowed regulated revenue for each year of the third regulatory period are shown in Table 11.1.

Table 11.1 TasWater's proposed maximum allowed regulated revenue ($000s)

	2018-19	2019-20	2020-21
Opex	174 781	178 691	185 260
Regulatory Depreciation	109 967	114 906	119 859
Return on capital	157 908	165 021	171 852
Inflationary gain offset	-71 178	-73 377	-83 864
Working capital	1 585	1 621	1 661
Tax allowance	22 021	23 514	24 954
Total regulated revenue	395 085	410 378	419 722

11.2 Economic Regulator's proposed regulated revenue

As discussed in Chapters 7, 8, and 9 the Economic Regulator has proposed alternative values for opex, regulatory depreciation and return on capital.

11.2.1 Inflation adjustment

As discussed in Chapter 10, the RAB is adjusted annually for inflation through the RAB roll forward. In previous investigations the Economic Regulator used a pre-tax real WACC which is net of inflation. As explained in Chapter 9, for the third regulatory period the Economic Regulator intends accepting TasWater's proposal to use a post-tax nominal vanilla WACC which includes compensation for inflation. Therefore, to avoid double counting for the impact of inflation, the inflationary adjustment component of the RAB roll forward must be removed. The Economic Regulator accepts TasWater proposal to include an adjustment for inflation in its regulated revenue build up.

Based on the Economic Regulator's proposed RAB roll forward calculations in Table 10.2 the Economic Regulator has calculated the adjustment for inflation that must be deducted in calculating TasWater's regulated revenue. The Economic Regulator's proposed inflation adjustment values are shown in Table 11.2.

Table 11.2 Economic Regulator's proposed adjustment for inflation ($'000s)

	2018-19	2019-20	2020-21
Inflation adjustment	- 71 354	- 73 817	- 76 203

11.2.2 Tax allowance

TasWater proposes including a tax allowance as a component of its regulated revenue build up. TasWater states that the tax allowance for regulatory purposes is based on the total regulatory revenue which would create a circularity issue as the tax allowance is one of the components of the regulatory revenue. To avoid this, TasWater proposes calculating tax only on the return on equity component of the return on capital component of the regulated revenue. TasWater justifies this calculation on the basis that its proposed prices will not recover the total revenue allowed and actual profit will be lower than the profit implied by the regulatory tax calculation.

The Economic Regulator concurs that by changing to a post-tax nominal vanilla WACC there is a need to include a tax allowance component in the regulated revenue build up.

The rationale for the post-tax building block revenue approach is that calculating a separate tax allowance in the revenue build up enables a more accurate estimate of an efficient benchmark business' tax liability.

The tax allowance is calculated using taxable revenue which is calculated as:

Regulated revenue

- forecast opex (as determined for the maximum revenue allowance build up)
- interest (cost of debt x gearing ratio x RAB)
- tax depreciation (determined using a Tax Asset Base (TAB))
- applicable tax losses

multiplied by the corporate tax rate (adjusted for gamma).

Regulatory revenue and taxable revenue are generally not identical. The applicable effective tax rate for the regulated business may therefore be significantly different from the corporate tax rate. Consequently, the use of the corporate tax rate may result in a regulated business being over compensated for tax liabilities.

To enable regulators to calculate a tax allowance the regulated business must create a Tax Asset Base (TAB) in addition to the RAB. The TAB must include the value of the regulated assets for tax purposes and therefore will differ to the DORC valuation used in for the RAB. In addition a regulated business must determine the value of any accumulated tax losses and apportion the tax losses between its regulated and unregulated activities. The TAB is then used to calculate tax depreciation which will differ from the value of the regulatory depreciation. The difference is due to the different asset values and methods used to depreciate assets for tax purposes.

Information required to establish a TAB includes:

- a commencement date, such as the date of corporatisation;
- the value of regulated assets for tax purposes at the commencement date; and
- the applicable tax deprecation rate or effective life of the assets for taxation purposes.

Like the RAB, the TAB would need to be rolled forward every year since the commencement date incorporating the relevant tax depreciation provisions and actual capex and disposals. Capex would be recognised on an 'as commissioned' basis to prove an actual estimate of tax depreciation for rolling forward the TAB.

The ability of a business to claim accelerated depreciation and accumulated tax loses will result in the TAB differing from the RAB with the difference increasing each roll forward period. From past experience[61], the Economic Regulator is aware that establishing a TAB using historical data is a time consuming and complex exercise and may require certain assumptions to be made where the information is incomplete.

TasWater has not created a TAB and proposes that tax depreciation equal regulatory depreciation and has assumed no applicable tax losses. Therefore, where the tax and regulatory deprecations amounts are the same and there are no applicable tax losses, TasWater proposes that the taxation allowance with respect to new assets is calculated as follows:

Return on equity (post-tax) x T/ (1-T (1-gamma))

Where:

T = corporate tax rate

Gamma = value of imputation credits

This formula can be re-written as follows to determine the tax allowance with respect to existing assets:

Return on equity (pre-tax) x T (1-gamma)

Based on the values calculated in Chapters 9 and 10 and the above formula, the Economic Regulator's tax allowance calculation and proposed tax allowance values are shown in Table 11.3.

[61] Aurora Energy Pty Ltd (Distribution), 2011.

Table 11.3 The Economic Regulator's tax allowance calculation ($'000s)

	2018-19	2019-20	2020-21
Gearing	0.60		
Equity %(1-gearing)	0.40		
Existing assets	2 538 401	2 544 838	2 551 596
Equity $_{\text{Existing Assets}}$ (assets * equity %)	1 015 360	1 017 935	1 020 638
New assets	723 294	825 851	944 508
Equity $_{\text{New Assets}}$ (assets * equity %)	289 318	330 340	377 803
Return on Equity (RoE) rates			
Existing assets (pre-tax)	3.00%		
New assets (post-tax)	7.12%		
Conversion factor *(1/(1-30%))*	1.43		
New assets (pre-tax) *(post tax rate * conversion factor)*	10.17%		
RoE (pre-tax)			
Existing assets *(Equity * pre-tax RoE rate)*	30 461	30 538	30 619
New assets	29 434	33 608	38 437
Total RoE	59 895	64 146	69 056
Tax on RoE			
Corporate Tax rate	30.00%		
Gamma	40.00%		
Tax rate for RoE *(30%*(1-gamma))*	18.00%		
*Tax allowance (Tax rate for RoE * RoE)*	10 781	11 546	12 430

The Economic Regulator intends to require TasWater to develop a Tax Asset Base prior to the commencement of the fourth regulatory period.

11.2.3 Working Capital Allowance

TasWater has proposed including a working capital allowance as an additional, separate building block component. The purpose of working capital is to provide short term liquidity. TasWater proposed the allowance in order to compensate it for the opportunity cost of holding additional funds to cover the delay between paying suppliers and receiving revenue from customers.

The Economic Regulator notes that both the ESC of Victoria and the AER consider a working capital allowance to be unnecessary due to the timing of cashflows for the businesses that they regulate. Neither regulator has approved a working capital allowance since 2000 and 2002 respectively.

The Queensland Competition Authority (QCA) has allowed SunWater a working capital allowance. However, in its report to the QCA, Deloitte notes that SunWater has only 22 bulk water scheme customers compared to electricity and gas distributors who have thousands of customers. SunWater may experience cash flow issues due to its small number of customers such that a working capital allowance was considered appropriate.[62]

A working capital allowance has not been part of the building block approach used in the two previous regulatory periods for TasWater and its predecessor regional corporations. Further, unlike Sun Water, TasWater has a considerable customer base, billed on a quarterly basis and the fixed charge

[62] Deloitte report to the Queensland Competition Authority, *SunWater - Working Capital Allowance, Final Report, 23 August 2011*, page 11.

components of regulated tariffs are billed in advance. The Economic Regulator considers that TasWater has not demonstrated that it has liquidity issues that would warrant the inclusion of a working capital allowance.

The Economic Regulator intends not allowing TasWater's proposed Working Capital Allowance.

11.3 Economic Regulator's proposed regulated revenue

The Economic Regulator's proposed values for each building block component and maximum allowed regulated revenue for each year of the third regulatory period is provided in Table 11.4.

Table 11.4 Economic Regulator's proposed regulated revenue ($000s)

	2018-19	2019-20	2020-21
Opex	169 862	173 149	178 848
Depreciation	86 705	91 112	95 773
Return on capital	143 884	150 154	157 380
Inflationary gain offset	- 71 354	- 73 817	- 76 203
Tax allowance	10 781	11 546	12 430
Maximum allowed regulated revenue	339 878	352 143	368 228

12 PRICING STRUCTURE

This chapter provides an overview of TasWater's proposed pricing structure for the third regulatory period.

The chapter outlines the:

- pricing principles;
- price reform priorities for the third regulatory period;
- structure of pricing for regulated water and sewerage services; and
- pricing for other services associated with the provision of regulated water and sewerage services.

12.1 Pricing principles

Prior to the commencement of the industry reform process the prices charged by local governments for water and sewerage services varied markedly between municipalities in terms of both the basis for setting prices and the level of prices.

One of the key objectives of the reform of the Tasmanian water and sewerage sector was to transition customers to a rational price structure consistent with the principles set out in the Industry Act; the Pricing Regulations and the NWI's pricing principles. The commencement of this price reform transition process was recognised by the Economic Regulator as a priority for the first and second regulatory periods.

For the third regulatory period TasWater's proposed Price and Service Plan was required to propose price reform arrangements that continued the transition of prices to a structure that meets:

- the pricing principles contained in section 68 of the Industry Act;
- the additional pricing principles set out in the Pricing Regulations; and
- the price reform priorities established by the Economic Regulator for the third regulatory period.

To date, TasWater has been subject to price regulation with a side constraint on price movements. This was to ensure that during the transition period, the impact of price changes on customers was managed while revenue was transitioned to the statutory revenue limit.

Given that TasWater's prices currently provide for revenues that are approaching the statutory revenue limit (as established in the Economic Regulator's 2015 price determination investigation), the Economic Regulator required TasWater to propose price changes in its proposed Price and Service Plan and demonstrate that its pricing proposals, combined with forecasts of water demand, customer connections and the number of miscellaneous transactions resulted in TasWater's forecast revenue being equal to or below the statutory revenue limit for each year of the third regulatory period.

12.2 Statutory pricing principles

Subject to section 68AA of the *Water and Sewerage Industry Act 2008* (the Industry Act) (see Section 12.4 below), TasWater's pricing proposal for regulated services must reflect the pricing principles contained in section 68 of the Industry Act together with any additional pricing principles set by regulation.

Section 68(1) of the Industry Act outlines the following pricing principles:

- a regulated entity is to be given a reasonable opportunity to recover the efficient costs it incurs in:
  - providing a regulated service; and
  - complying with a regulatory obligation; or
  - complying with a requirement to make a regulatory payment under the Industry Act (except where the Industry Act provides otherwise);
- the price is to provide for efficient pricing through:
  - separately charging and recovering fixed costs and variable costs via voluntary metering, mandatory metering or in such other manner as determined by the Economic Regulator (that is, via two-part pricing for water services); and
  - reflecting the costs of servicing particular customers or classes of customers in different locations, regions or schemes;
- the price is to provide effective incentives, with respect to a regulated service to:
  - promote economic efficiency;
  - reduce costs; or
  - otherwise improve productivity;
- the price is to allow a regulated entity to receive a return on assets used in providing the regulated service; and
- the price charged to a particular customer or class of customers is to reflect at least the costs that relate directly to providing the regulated service to that customer or class of customers to the extent that it is commercially and technically reasonable to do so.

12.3 Pricing Regulations

In addition to the pricing principles set out in section 68 of the Industry Act, the Pricing Regulations contain additional pricing principles in relation to the following matters:

- the treatment of contributed assets[63];
- pricing zones (nodal pricing);

[63] Contributed assets include developer charges and government grants but exclude equity contributions from the owner of a regulated entity. Furthermore, the assets of the three previous regulated entities which have been and will be vested in the regulated entity are not to be treated as capital contributions.

- the basis for setting fixed and variable charges (including the prohibition of free water allowances);
- the calculation of developer charges; and
- the structure of service introduction charges.

Pricing proposals within proposed Price and Service Plans must also reflect the matters to which the Economic Regulator is to take into account under section 15 of the Industry Act.

12.4 Transition period

Section 68AA of the Industry Act acknowledges that the full application of the pricing principles will require a transition period. For the purpose of section 68AA, the transition period is defined in the Pricing Regulations as the eight year period from 1 July 2012 to 1 July 2020 inclusive.

Section 68AA enables the pricing principles not to be applied to the formation or approval of Price and Service Plans and price determinations during the transition period to the extent that the application of those principles would:

- result in a significant impact on customers, or a particular class of customers, due to the rate of change in prices;
- adversely affect the sustainability of a regulated entity in so far as it provides regulated services; or
- adversely affect the ability of a regulated entity to deliver regulated services.

Therefore, if TasWater includes a pricing proposal in its proposed Price and Service Plan that does not satisfy all of the pricing principles in the Industry Act and the Pricing Regulations, it must justify, in each instance, why it is unable to satisfy that individual pricing principle, in the context of the requirements of section 68AA.

It should be noted that section 68AA does not apply to the matters the Economic Regulator is to take into account under section 15 of the Industry Act, including the need for the Economic Regulator to consider the impact of the rate of change of prices on customers. The outcomes from the Economic Regulator's assessment of these customer impacts are discussed in Chapter 13.

Due to the requirement for regulatory periods to be at least three years duration, the third regulatory period will not align with the end of the transition period. The Economic Regulator is not concerned about the non-alignment with the end of the transition period provided target tariffs and proposed price transition paths for the third regulatory period is designed to enable compliance with the pricing principles by 1 July 2020.

12.5 Price reform priorities for the third price determination

During the third regulatory period, as noted in Section 12.4, TasWater's tariffs are proposed to complete the transition to a rational price structure with all customers on target tariffs.

From the commencement of independent regulation of water and sewerage prices in Tasmania on 1 July 2012 through to the end of the second regulatory period on 30 June 2018 it has been the constraints on price movements that have been determining prices as customers have continued to transition to uniform target tariffs.

While the Economic Regulator has been calculating revenue limits as part of its price determination investigations, expected revenue has been below the legally binding statutory limit during this time.

For the third regulatory period it is expected that the following price reforms will need to be managed:

- completing the transition of all customers to the relevant target tariff by 1 July 2020;
- underlying movements in target tariffs to continue the transition to the statutory revenue limit and fund required regulatory compliance improvement;
- making any changes to the level of miscellaneous charges; and
- implementing the outcomes of any proposed changes to TasWater's tariff structure or customer classes.

The structure and quantum of these proposed price changes will depend upon an assessment of the ability of TasWater to achieve price reform in a manner that manages the impact of the rate of change of prices for customers whilst addressing competing needs such as facilitating improved regulatory compliance.

Consistent with the "propose and respond" nature of the regulatory framework, the Economic Regulator considers that TasWater is best placed to develop models to support pricing proposals and assess customer impacts as it holds detailed customer and usage information.

Any proposed movements in price, or constraints upon price movements, will be assessed by the Economic Regulator based on the following objectives:

- completing the transition of all customers to the relevant target tariff by 1 July 2020;
- managing the impact of price changes on customers; and
- provide effective incentives to promote economic efficiency, reduce costs or otherwise improve productivity with respect to a regulated service.

TasWater is required to demonstrate that proposed price movements, or constraints upon price movements, have been informed by feedback from consultation with customers and industry regulators (see Chapters 2 and 3 respectively).

The above matters are addressed in Chapter 13.

12.6 Structure of regulated prices

This Chapter provides an overview of the services TasWater intends providing during the third regulatory period, as well as the proposed tariff structure for each service.

TasWater's proposed tariff structure for each regulated service is described generally below.

Water charges:

- fixed water tariff – an annual charge for the provision of water via water infrastructure for both full service customers and limited water supply customers (ie where the service is limited due to pressure and/or flow issues);
- volumetric water tariff – a charge per kilolitre for water usage for both full service customers and limited water quality customers (ie where the water received is not of drinking water quality);
- fire service connection tariff – an annual charge for the provision of capacity to support fire-fighting in private buildings;

- water carriers tariffs – a charge per kilolitre for water taken from water infrastructure by water carriers;
- public and private filling tariffs - a charge per kilolitre for water taken from water infrastructure via public and private filling stations (the private filling tariff also includes an annual fixed charge while the public filling station tariff includes a one-off security deposit);
- portable metered standpipes – a charge per kilolitre for water taken from portable metered standpipes and an annual fixed charge; and
- unconnected service charge – an annual charge for the ability to connect to TasWater's infrastructure, even though a physical connection may not be in place.

The Economic Regulator identified that, compared to the second regulatory period, TasWater had not proposed applying fixed water charges to:

- water carrier tariffs;
- public and private filling tariffs; and
- portable metered standpipes.

TasWater confirmed that this was an oversight and that it intended to continue applying fixed water charges for these services.

Sewerage charges:

- fixed sewerage tariff – an annual charge for the removal, treatment and disposal of sewage via sewerage infrastructure, including motor home dump points (located outside of caravan parks) and Septic Tank Effluent Disposal (STED) customers. The Economic Regulator identified that TasWater's STED tariffs were missing from its proposed Price and Service Plan and, following confirmation from TasWater that this was an oversight, requested that TasWater include details relating to these tariffs in its final Price and Service Plan. The Economic Regulator has included details of STED tariffs in its Draft Determination (Appendix 1);
- unconnected service charge – an annual charge for the ability to connect to a regulated entity's infrastructure, even though a physical connection may not be in place; and
- trade waste tariffs – annual charges for the removal, treatment and disposal of trade waste via sewerage infrastructure. The charge depends on the category of customer which in turn depends on the type and volume of waste produced.
    - Category 1, 2A, 2B and 2C customers pay an application fee and an annual fixed charge. Minor and major non-compliance charges may be levied where trade waste discharge is outside agreed limits. New fees - a trade waste site constraint fee and a trade waste macerator fee - are also proposed (see Sections 13.2.2.2 and 13.2.2.3 respectively).
    - Category 3 and 4 customers negotiate charges with TasWater and may involve fixed and/or variable charges and reflect the costs of removing, treating and disposing of the trade waste. Prices for these customers are negotiated individually and are unregulated.

Miscellaneous charges:

- connection/disconnection charges – cost recovery charges levied for connecting to, or disconnecting from, water or sewerage infrastructure;
- metering charges – cost recovery charges levied for items such as special meter reads, meter testing and meter relocation;
- sundry fees – cost recovery charges levied for a number of sundry fees such as location of services or pressure and flow testing;
- development services fees – cost recovery charges levied for the assessment of development, subdivision, building and plumbing applications;
- developer charges – cost recovery charges levied on developers (either as a charge or via the gifting of water and/or sewerage infrastructure by the developer) to cover the cost of expanding water and/or sewerage infrastructure to support the development; and
- service introduction charges – a temporary additional charge imposed on particular customers to recover some of the cost of the construction of water and/or sewerage infrastructure to service areas not previously receiving reticulated water and/or sewerage services.

The Economic Regulator notes that TasWater's proposed tariff structure is generally not significantly different to that approved by the Economic Regulator in respect of the three previous regulated entities or for the previous two regulatory periods.

The Economic Regulator intends concluding that, once the STED tariffs are added and fixed water charges are applied to water carrier tariffs, public and private filling tariffs and portable metered standpipes, TasWater's proposed regulated services and proposed tariff structures satisfy the definition of a regulated service and are structured in line with the pricing principles respectively.

12.7 Pricing zones

A pricing zone is a region where the prices charged to customers are the same for the same service, that is, the same sets of prices apply to each customer class. A pricing zone could cover the entire region serviced by TasWater (which would equate to 'postage stamp' pricing) or there could be a number of zones within the region (nodal pricing).

The Pricing Regulations set out the circumstances where pricing zones may be included in a proposed Price and Service Plan. Regulation 6 states that different pricing zones can only be implemented where there are significant differences in the costs of providing regulated services to different areas.

Even if there are significant differences in the cost of providing services across the region, different pricing zones may still not be required if the Economic Regulator considers the cost of implementing such zones outweighs the benefits.

Where material cost differences are identified, or there is insufficient data to assess cost variations, and TasWater does not propose implementing pricing zones, TasWater must justify its decision not to implement pricing zones.

Where material cost differences are identified, and TasWater proposes adopting pricing zones, the pricing zones must be clearly identified (for example, via maps) and justified on the basis of cost differentials in providing a regulated service.

12.7.1 Pricing zones for the first and second regulatory periods

During the first regulatory period, postage stamp pricing applied in Tasmania on a regional basis with one set of target tariffs for the North, one set for the North West, and one set for the South.

During the second pricing investigation, TasWater proposed one state-wide target tariff for each service. It argued that state-wide postage stamp pricing was the fairest and most practical approach for Tasmania given its dispersed population and asset base, as well as being simple to understand, particularly given the differing pricing arrangements that had previously existed. It indicated that solid support for postage stamp pricing had been expressed during customer consultation across all regions.

At that time the Economic Regulator was of the view that TasWater's proposed Price and Service Plan did not demonstrate that the cost of implementing pricing zones outweighed the benefits, and sought additional information. TasWater indicated that:

- it did not have the data required to accurately and appropriately identify and inform the build-up of cost and prices between different zones;
- implementing zone pricing would require costly changes to systems which it believed were not warranted given its small customer base; and
- a move away from postage stamp pricing would require thorough consideration in terms of its impact on concession customers.

Despite the absence of details about the costs of implementing pricing zones and in light of the issues raised by TasWater, the Economic Regulator decided to approve TasWater's proposal to not introduce separate pricing zones for the second regulatory period.

12.7.2 Pricing zones for the third regulatory period

In its proposed Price and Service Plan for the third regulatory period, TasWater proposed retaining a single pricing zone for the State, so that the same prices would apply for each service regardless of the location. TasWater provided the following reasons to justify the retention of postage stamp pricing:

- returning to a regional approach would add considerably to its administrative burden and create confusion for customers;
- it does not collect cost data by region as the data requirements would be difficult to establish and would require significant resources to estimate, and the benefits of disaggregating the data are not compelling;
- customers support retaining a single pricing zone;
- paying the same price for the same service is generally viewed as an equitable outcome;
- uniform pricing is simple to understand, particularly given the different pricing arrangements that previously existed; and
- the theoretical benefits of nodal pricing (for example, providing a price signal to incentivise efficient investment and water usage) would be muted as prices do not yet reflect costs.

12.7.3 Pricing zones - draft conclusions

While TasWater's arguments for retaining postage stamp pricing do not demonstrate in detail that the cost of implementing pricing zones would outweigh the benefits, the Economic Regulator notes that detailed regional information is not available and would be costly to acquire. The Economic Regulator intends approving TasWater's proposal to retain a single pricing zone for the State for the third regulatory period.

The Economic Regulator intends to approve TasWater's proposal to retain a single pricing zone for Tasmania for the third regulatory period.

12.8 Customer classes

In its proposed Price and Service Plan for the third regulatory period, TasWater was required to describe and justify any changes to the customer classes approved by the Economic Regulator for the second regulatory period. Proposed changes to the existing classes were required to be justified on the basis of further achieving the pricing principles of the Act.

Different customer classes are required to ensure that the following is reflected:

- differences in customer service levels, for example, customers connected to main water supply pipes (wayside customers) may experience more frequent service interruptions and can also experience variable water quality; or
- differences in the quality of the product supplied, for example, water that is of drinking water quality versus water that is not of drinking water quality; or
- differences in the fixed costs associated with providing water services or sewerage services to a property.

The end use of the product and/or service provided should not determine customer class. For example, a customer class based on whether the customer is a residential or non-residential customer does not reflect differing service levels or product quality and should not be used to define a customer class.

Water customers and sewerage customers are considered to be different customer classes, reflecting the different costs associated with providing a different service and product.

The Economic Regulator approved the following customer classes for the second regulatory period:

- full service (water);
- full service (sewerage);
- limited water quality - customers receiving water from a supply which has a permanent boil water alert in place, or customers receiving water from a supply the regulated entity has declared to not be of drinking water quality;
- limited water supply - customers that:
  - are connected to a water main that periodically does not contain water under positive pressure; or
  - have a connection designed to provide low or intermittent flow, such as where the customer has been required to install, operate and maintain an individual tank or pump; or

- are connected to a non-reticulated water main that is subject to significant pressure variations due to either –
    - a pumped supply where the low pressure is below 50 kPa and the high pressure is above 500 kPa; or
    - an inlet supply to a trunk reservoir such that when the reservoir inlet valve is open the pressure is below 50 kPa; or
- receive a supply the regulated entity determines to be inadequate;

- combined limited water quality and limited water supply;
- trade waste - four categories:
    - category 1 and 2 customers operating under a standard regulated contract (section 60 of the Industry Act) –
        - category 1 customer waste is of low volume or strength, results in a minimal risk to/demand on the sewerage infrastructure and can be managed through cleaner production methods;
        - category 2 customer waste is of low to medium volume, requires physical pre-treatment before it can be discharged and is separated into three sub-categories (categories 2A, 2B and 2C) to more accurately reflect demand on the system using a technical and commercial risk assessment of the impacts; and
    - category 3 and 4 customers operating under a section 61 contract, where the volume, composition or quality of the waste (either individually or combined) results in a medium to high risk to/demand on the system, and where TasWater negotiates prices directly with customers; and
- septic tank effluent disposal scheme (STEDs) customers:
    - a septic tank is maintained by the customer, including desludging, and liquid waste is removed by TasWater, with schemes currently operating at Beauty Point, South Arm (Blessington Street), Bronte Lagoon and Granville Harbour.

TasWater has proposed retaining the same customer classes for the third regulatory period. These customer classes have been recognised since the first regulatory period, with the only refinement being the separation of category 2 trade waste customers into three sub-categories approved as part of the 2015 investigation. The Economic Regulator identified that STEDs were missing from TasWater's proposed Price and Service Plan for the third regulatory period and, following confirmation from TasWater that it intended to continue operating a small number of such schemes, requested that information on STEDs be included.

The Economic Regulator, having reviewed TasWater's proposed customer classes for the third regulatory period, considers that they reflect the differential cost of providing regulated services to customers in each class.

The Economic Regulator intends to require TasWater to include details about STED customers in its final Price and Service Plan.

The Economic Regulator also intends to approve the customer classes TasWater has proposed for the third regulatory period.

12.9 Fixed charges

TasWater's proposed fixed water and sewerage charges are detailed in the following sections.

12.9.1 Fixed water charges (full services)

A fixed charge is a recurrent charge for a regulated service that should reflect a regulated entity's costs of providing the service to a customer or class of customers. A fixed charge does not change as the usage of the regulated service changes. A fixed charge is not a variable charge or a service introduction charge.

Under the Pricing Regulations, a fixed charge for a regulated service supplied to residential premises on a property can only be imposed on a person who is an owner of those premises.

As for the second regulatory period, TasWater proposes setting fixed water charges based on the size of a property's metered water connection.

TasWater stated that since all connections share (or can potentially share) in the benefits of its infrastructure, cost reflective prices represent the share of the fixed costs of acquiring and maintaining water infrastructure each connection (or potential connection) can enjoy (or potentially enjoy).

TasWater proposes to allocate fixed prices based on connection size. The size of water connections directly affects the costs of network infrastructure. Larger water mains and more pumping capacity are required to service the water flows able to be drawn by larger connection sizes.

Water connection sizes also give an indication of the different water use potentials of different customers. The different water use potentials are a factor contributing to the design of water storages.

The relationship between the diameter of the metered connection and the potential flow that can be provided is used to scale the fixed price for water. A larger connection size means a larger potential demand on the system and, therefore, a higher fixed charge. Table 12.1 outlines the multipliers relating to water connection size.

The Economic Regulator considers TasWater's proposal to base fixed water target tariffs on connection sizes is appropriate as it reflects potential water demand upon a TasWater's water infrastructure, which is consistent with the requirements of the statutory pricing principles and arrangements in other jurisdictions.

The Economic Regulator intends to approve TasWater's proposal to base fixed water target tariffs on the proposed connection sizes and multipliers.

In its proposed Price and Service Plan for the third regulatory period, TasWater noted its intention to maintain its current approach to the imposition of service charges. That is, TasWater proposes that vacant land within its serviced land boundaries continue to be levied a service charge. TasWater proposes that the service charge for water continue to be equal to the fixed water charge for 20mm connections. Further information on TasWater's proposed service charges can be found in Chapter 4 (Section 4.10.3).

Table 12.1 Multipliers for fixed water charges based on connection size

Water Connection Size (mm)	Multiplier (x)
20	1.00
25	1.56
30	2.25
32	2.56
40	4.00
50	6.25
65	10.56
75	14.06
80	16.00
100	25.00
150	56.25
200	100.00
250	156.25

12.9.2 Fixed water charge (limited service)

As was the case for the second regulatory period, TasWater has proposed the application of a 10 per cent discount to the target fixed water charge for customers who receive a limited service due to pressure and/or flow related issues. This discount reflects the deficiency in the local water reticulation system. These charges are linked to the fixed water charge for full service customers.

The Economic Regulator asked TasWater to explain how the 10 per cent discount was derived, including any evidence or data to justify the proposed percentage discount.

TasWater stated that the range of customer scenarios that make up limited water service customers means that it is not feasible to quantitatively estimate the fixed costs to supply this specific group. Rather, TasWater provide what it considers to be a reasonable discount to reflect the reduced level of service received, but does not encourage increased demand for these types of connections. TasWater stated that while it did not specifically consult on the current level of discount in its customer engagement, customers did not raise any issues with the level during the second regulatory period.

The Economic Regulator considers TasWater's proposal to provide a discount to the full service fixed water target tariffs where the service provided is inferior to a full service is appropriate.

The Economic Regulator intends to approve TasWater's proposal to charge limited supply customers 90 per cent of the fixed water target tariffs for each year of the third regulatory period.

12.9.3 Fixed water charge (fire services)

Commercial and industrial customers in particular may have a water service provided to their property to support a sprinkler system or hose reel in the event of fire.

Fire services are not metered connections and are not often called upon. However, the potential need for the service requires a regulated entity to build capacity into its network to meet peak supply requirements.

As for standard water charges, TasWater has proposed levying a charge based on the connection size. However, given this service is used infrequently, TasWater has also proposed levying 25 per cent of the fixed water target tariff for fire services.

The Economic Regulator asked TasWater to justify its proposal to impose a fire service charge based on 25 per cent of the fixed water target tariff. TasWater stated that many customers across the state, particularly commercial and industrial customers, have a water service provided to their property to support a sprinkler system or private fire hydrant in the event of fire. This may be combined with the standard potable service, or in addition to it.

In both the first and second regulatory periods, fire service charges were levied to reflect that the need for the service requires TasWater to build capacity into its network to meet peak supply requirements. Except for dedicated fire services, these should not be directly metered connections and are not often called upon. The fire service charge for the third regulatory period is proposed to be equivalent to 25 per cent of the relevant target fixed water charge to take account of the fact that the service is infrequently called into use.

TasWater stated that during customer engagement for its proposed Price and Service Plan, its individual discussions with major customers and peak bodies showed general support for the current fire service charge arrangement. TasWater stated that it had discussions specifically with the University of Tasmania, Nekon Pty Ltd, Old Woolstore Hotel and the Property Council of Australia (Tasmania).

TasWater has advised that all fire service customers will be on target by the start of the third regulatory period.

The Economic Regulator considers it appropriate to reduce the fixed charge for fire services in recognition of the fact that these services are rarely used and the demand on the network is, therefore, less than the demands placed on the network by standard water connections.

The Economic Regulator intends to approve TasWater's proposal to charge fire service customers 25 per cent of the fixed water target tariffs for each year of the third regulatory period.

12.9.4 Fixed sewerage charge (STEDs)

TasWater operates a small number of Septic Tank Effluent Disposal schemes (STED) around the state (Beauty Point, South Arm (Blessington Street), Bronte Lagoon, Granville Harbour) that take only the liquid waste from customers' septic tanks. Customers manage and maintain their own septic tanks, including desludging.

Under the *Building Regulations 2016* existing septic tanks are required to be de-sludged at least every three years or other period as directed by the relevant local council.

As part of the 2015 price determination investigation, the Economic Regulator approved the discounted price for sewerage services of 0.9ET for STED customers on the basis that an annual ten per cent discount approximates the cost to the owner of having their septic tank pumped out every five years. The Economic Regulator considered that this approach is appropriate in light of the lower costs to TasWater of providing this particular service.

For the third regulatory period TasWater is proposing that a property connected to a STED scheme will have an ET rate of 0.7 of the full fixed sewerage target tariff to account for owners having to meet the costs of their septic tank being de-sludged every three years.

The Economic Regulator intends to approve TasWater's proposal to charge STED customers 70 per cent of the fixed sewerage target tariff for each year of the third regulatory period.

12.10 Variable charges

The Pricing Regulations specify that the regulated entity must charge a variable charge (volumetric charges) for water services but has discretion whether or not to impose a variable charge for sewerage services. Under two-part pricing, and applying the user pays principle, variable charges are imposed based on the volume of water a customer uses.

Under Pricing Regulation 16(3), a variable charge for a regulated service must be payable for each unit of water delivered to, or wastewater removed from, the property to which the charge relates.

The Pricing Regulations specify that the amount of the variable water usage charge for a property must at least cover the cost of delivering water to that property. This means that variable charges should ordinarily be set to recover only variable costs directly related to providing water to the property.

However, Pricing Regulation 16(6) states that the amount of a variable charge can be greater than the cost of delivering water or removing sewerage if:

- there are constraints on the amount of water supply available to be provided by the regulated entity or the capacity of water treatment plants or wastewater treatment plants;
- there are constraints on the capacity of the regulated entity's water and/or sewerage infrastructure;
- it is desirable to do so to reduce the demand for water and/or wastewater treatment for a relevant purpose (one example of a relevant purpose may be improving regulatory compliance); or
- the Economic Regulator considers that the rate should be greater than the cost to enable the regulated entity to recoup funds that it may not otherwise receive.

Where TasWater proposes levying a variable charge greater than the cost of delivering water or removing wastewater it must identify, quantify and justify the other costs to be recovered through variable charges in its proposed Price and Service Plan.

The volume of water or sewerage for which a variable charge applies must be determined through consumption as measured through a meter. As such, TasWater is unable to recover revenue through variable charges until such time as a meter is installed at a property to measure the volume of water delivered to the property or wastewater removed from the property to which the charge relates. In these circumstances, the customer will still be liable for the relevant fixed charges.

12.10.1 Variable water charges (full service)

Under two-part pricing, and applying the user pays principle, variable water charges are imposed based on the volume of water a customer uses. For the third regulatory period, TasWater has proposed that target variable water charges continue to be set on a similar basis to that used for the second regulatory period. TasWater propose that the target variable price increase by 4.6 per cent. On that basis, TasWater is proposing a variable water charge of $1.07/kL in 2018-19.

The level of TasWater's proposed variable water charges is discussed further in the following section.

12.10.2 Extent of fixed costs recovered through variable charges

The PSP Guideline stated that the Pricing Regulations specify that water prices must provide for efficient two-part, cost-reflective pricing.

Additionally, the amount of the variable water usage charge for a property must at least cover the cost of delivering water to that property. This means that variable charges should ordinarily be set to recover only variable costs directly related to providing water to the property.

The Guideline stated that where TasWater proposes levying a variable charge greater than the cost of delivering water, or removing sewage, TasWater must identify, quantify and justify the other costs to be recovered through variable charges in its proposed Price and Service Plan.

In its proposed Price and Service Plan TasWater is not proposing to change its approach to fixed and variable charges for the third regulatory period. TasWater stated that, while it considers approximately 15 per cent of its water costs to be variable, it seeks to recover approximately 30 per cent of its water revenue through the variable charge.

TasWater acknowledges that the benefits of aligning the variable costs with the variable price theoretically include:

- an efficient price signal whereby customers face a price signal that reflects the cost of supplying water. This will theoretically result in an optimally efficient level of water use; and
- lower demand risk as any variation in actual demand relative to forecast will impact on costs and revenue in an offsetting manner.

However, for the third regulatory period, TasWater considers it appropriate to retain the existing split between fixed and variable prices noting that its estimate of variable costs is based only on short run variable costs. TasWater stated that regulators typically allow variable prices based on long run marginal costs (LRMC) which are normally higher. A LRMC includes a portion of the costs of future system augmentation needed to meet increasing demand. TasWater stated that, since a significant portion of its proposed capex over 20 years has a growth driver, a higher variable charge may result in lower water use growth and defer some capex.

TasWater stated that, during consultation for its proposed Price and Service Plan, customers expressed a desire for the variable charge to be a higher proportion of the total bill relative to the fixed charge. Any reduction in the variable charge would be counter to customers' preferences and would also create volatility in the price path between the second and third regulatory periods.

The Economic Regulator asked TasWater to explain what else is included in the variable charge given the proposed Price and Service Plan includes only a general discussion that the variable charge is higher than it would be if it was based purely on variable costs.

In response, TasWater stated that the variable charge was derived by increasing current charges at 4.6 per cent based on community consultation and reflects a general acceptance of the prevailing tariff structure. The gap between variable costs and the variable revenue does not reflect any particular cost types.

TasWater stated that the gap between cost-reflective and target variable prices is $0.49Kl in 2018-19. Based on forecast demand of approximately 60GL, this results in a revenue gap of $29 million. However, since TasWater projected estimated revenue being less than the statutory limit there would be no over-recovery overall.

In terms of the requirements of Regulation 16(6), the Economic Regulator does not consider that any of the circumstances listed in Regulation 16(6) (a), (b) and (d) inclusive are relevant at this point in time. The Economic Regulator does however consider Regulation 16(6)(c) to be relevant to TasWater's current situation. That is, given TasWater's current financial position (in terms of under-recovery of costs) and its associated need to finance substantial compliance improvement programs, the Economic Regulator has formed the preliminary view that it is appropriate for TasWater to continue to charge variable charges that exceed the costs of delivering water to customers' properties.

The extent to which variable charges may be set above cost is a matter of judgement. It should be noted that setting variable charges at levels above cost results in large water users (such as industrial customers, hospitals and schools) subsidising low use customers (residences and office blocks). This has the effect of creating a cross subsidy and is inconsistent with the pricing principles in relation to cost reflective charging.

On balance, the Economic Regulator has decided that setting the variable charge at around $1.00/kL represents a fair balance between sending an appropriate price signal to customers so as they can choose to modify their water consumption and enable demand driven investment to be deferred, thereby allowing regulatory compliance improvement capex to continue to be prioritised over the third regulatory period.

The Economic Regulator notes that TasWater has not revisited the costs of delivering water in developing its proposed Price and Service Plan for the third regulatory period. TasWater has proposed increasing target variable water charges annually by 4.6 per cent. This proposal is discussed in Chapter 13.

The Economic Regulator intends to approve TasWater's continuation of the recovery of some fixed costs through variable charges for the third regulatory period.

12.10.3 Variable water charges (limited service)

TasWater did not include any information on the level of discount to limited water quality and limited water service customers in its proposed Price and Service Plan. The Economic Regular requested information from TasWater on the level of discounts and a justification of the level of discounts.

As approved by the Economic Regulator for the second regulatory period, TasWater proposed that limited water quality customers will continue to receive a 20 per cent discount on the full service variable rate to reflect that limited quality water goes through a reduced treatment process.

The Economic Regulator asked TasWater for further detail on how the level of discount was determined. TasWater stated that the components of the variable water supply opex related to treatment (materials and services, chemicals and power) amounted to $17.8 million in 2015-16. This is approximately 20 per cent of the total 2015-16 water supply opex of $90.8 million. The proposed discount for limited water quality customers reflects this percentage.

The Economic Regulator considers that TasWater's proposed approach is appropriate given that it costs less to supply limited quality water to a property.

The Economic Regulator considers it appropriate that limited water quality customers receive a 20 per cent discount on the full service variable rate given the lower costs associated with supplying water to these customers.

The Economic Regulator intends to approve TasWater's proposal to charge limited service customers 80 per cent of the variable water target tariffs for each year of the third regulatory period.

12.11 Equivalent Tenements

The Pricing Regulations require that TasWater must charge a variable charge (volumetric charges) for water services, but gives TasWater discretion as to whether or not to impose a variable charge for sewerage services. Since the reform of the water and sewerage industry, the previous regulated entities and now TasWater have elected not to include a variable pricing component in the sewerage service charge, instead utilising the fixed charge to cover costs associated with the treatment and disposal of domestic wastewater.

Fixed costs for sewerage services are apportioned across all customers based on their likely demand on the sewerage system. The likely demand on the system is determined as a ratio of the equivalent tenements (ETs) assessed for each property. An ET is an approximate measure of the load (or demand) a property places on the sewerage system and is based on the average discharge of a standard residential dwelling. It is generally accepted that one ET is applicable for an average residential property under dry weather flows.

This average rate is then used to calculate the ET rates for other types of properties depending on their differing impacts on the sewerage system. A customer's fixed charge for sewerage services increases proportionally with the ET assessment. If a property is deemed to place twice as much load on the sewerage system, it will be assessed as two ETs and the target tariff will be twice the standard sewerage service charge.

ET property types are categorised as either residential or non-residential, with the majority being residential on standard allotments. Under TasWater's current and proposed Price and Service Plan, houses, units, flats and apartments are considered to be standard occupancy. Where a lot is classified as multi-residential (ie more than one residential dwelling is located on a single allotment), the number of ETs is multiplied by the number of dwellings. For non-residential property types, different rates apply depending on the industry and the property type, which include: accommodation, business (excluding food preparation), meal preparation, food manufacture, metal processing and manufacturing, entertainment, sporting/spectator facilities, community facilities and other.

Property attributes such as building and land size, occupancy rates and whether a property has multiple uses (eg shopping centres) are taken into account to determine an ET rate per unit, with units varying depending on the property type.

12.11.1 ET methodology for the first and second regulatory periods

For the first and second regulatory periods, fixed sewerage charges were calculated using the ET methodology. While the application of the ET methodology has progressed considerably since the commencement of water and sewerage reform in Tasmania, it is an area in which more work can be done to improve transparency, understanding and accuracy of measurement.

As part of the first pricing investigation, the previously regulated entities proposed determining sewerage charges based on assessed ETs and the methodology contained in the Water Services Association Australia (WSAA) Sewerage Code. However, ETs had not been determined for all customers at that time. The Economic Regulator approved this approach and accepted the entities' undertaking to complete the calculation of ETs on or before a customer's first quarterly accounting billing cycle of the first regulatory period. Customers would be transitioned to the determined ETs in line with the proposed price constraints.

During the first regulatory period it became apparent that there were differences between the previously regulated entities in terms of the application of price caps, ET methodologies and accompanying policies. It also became apparent that the ET methodology had not been well articulated and, therefore, customers did not fully understand the basis of, and rationale for, the methodology.

As part of the second pricing investigation, TasWater was required to describe and justify its intended ET methodology, including how it would be applied to different customer types and how it intended to transition ET prices whilst managing customer impacts through to the end of the transition period (1 July 2020).

The Economic Regulator approved TasWater's proposal to apply its ET methodology in determining fixed sewerage charges, with the exception of caravan parks. Concerns were raised during consultation that the ET methodology proposed at the time would not provide an accurate estimate of the likely demand each caravan park would impose on the sewerage system, given the diverse range of facilities and services they offer. Following further consultation, an alternative approach was developed to determine ETs for caravan parks based on the proportion of water consumed and discharged to the sewerage system. It was considered that the alternative approach would be simpler to administer and would result in more cost reflective outcomes. The Economic Regulator approved TasWater's approach to transitioning sewerage customers to target tariffs based on their respective number of ETs, ie the price constraints of the greater of $100 or 10 per cent applying to one ET and proportionally adjusted in line with increases in the number of ETs.

The Economic Regulator was, however, concerned about the lack of transparency surrounding the ET methodology. TasWater had explained that its ET methodology was based on the WSAA Sewerage Code and information released by the NSW Water Directorate[64], the *Section 64 Determinations of Equivalent Tenements Guidelines*, and was adjusted to best reflect Tasmanian circumstances. The Economic Regulator noted that while TasWater had provided a detailed schedule of ET rates, it had not provided a clear explanation of the methodology it had used to calculate the various ET rates to be applied to different industries and property uses. It also noted that this was particularly an issue given that the supporting basis for TasWater's approach (ie information published by WSAA and the Water Directorate), was available by subscription only to members of those bodies.

Consequently, the Economic Regulator required TasWater to amend its final Price and Service Plan for the second regulatory period to include a schedule detailing the ET rates to be applied to different industries and property uses, and a clear explanation of the methodology used to calculate them. TasWater was also required to justify any departures in its ET methodology from the schedules contained in the NSW Water Directorate's Guidelines and to publish any documentation that was not publicly available, that it was intending to rely on.

[64] The Water Directorate is a water and sewerage industry organisation that provides independent advice and direction to members on technical issues. Membership is open to councils and local water utilities that deliver water and wastewater services across regional and rural NSW.

12.11.2 Proposed ET methodology for the third regulatory period

In its proposed Price and Service Plan for the third regulatory period, TasWater proposed continuing the use of a fixed charge to cover the costs of sewerage services. It indicated that implementing a variable charge as an alternative would require meters to be installed for every property and it did not consider this to be a priority in terms of capex or likely to provide a net benefit. It also proposed continuing its existing ET methodology.

TasWater proposes that vacant land within its serviced land boundaries continue to be levied a service charge. TasWater proposes that the service charge for sewerage continue to be 60 per cent of one ET fixed sewerage charge. Further information on service charges is provide in Chapter 4 (Section 4.10.3).

The Economic Regulator's *2018 Price Determination Investigation Price and Service Plan Guideline* requires TasWater to justify and describe how it intends to apply its ET methodology, explain how the number of ETs has been determined for each property type and justify that the resultant ETs are cost reflective. It is also required to include a schedule of proposed ETs for different industries and property types.

The Economic Regulator notes TasWater's planned continuation of a fixed charge to cover the costs of sewerage services and intends approving its proposed continuation of the ET methodology to estimate the load placed on the sewerage system by each connection. It notes that the proposed Price and Service Plan includes a table of proposed ETs for different industries and property types, as well as a table broadly describing proposed adjustments to ETs compared with the second regulatory period.

TasWater indicated that its ET methodology for the third regulatory period is underpinned by the NSW Water Directorate's Guidelines (2017), supplemented by former corporation information and WSAA Sewerage Code related documents to account for local differences, reduce administrative complexity, ensure fairness or respond to customer concerns. The Economic Regulator notes that the 2017 version is available to purchase online.

TasWater indicated that the process for calculating ETs involves the following:

- Ascertaining the property type (such as residential, accommodation or community facilities) and associated property attributes (such as number of beds, number of students, gross floor area or number of toilets or showers) using combined data sources such as site visits, direct customer contact, Google maps and local knowledge.
- Attributing a default one ET to all identified standard residential customers.
- Identifying customers who have a property within serviced land that is not physically connected to TasWater's infrastructure, but has the ability to connect, and applying a rate of 0.60 ETs for a residential dwelling.

The Economic Regulator notes that public access to the resources that form the basis of TasWater's ET methodology continues to be restricted. Appendix 9 compares ET rates for each property type for the current and proposed regulatory periods, and describes changes. It shows, for example, that an alternative method of ET calculation is proposed for 'Office' (using annual water consumption data and a discharge factor) and that changes are also proposed for 'Car wash', 'Boarding house' and STED scheme customers, as well as for other property types.

Since submitting its proposed Price and Service Plan, TasWater provided advice on Appendix 10, which shows proposed ET rates for property types that differ from those contained in the NSW Water Directorate's 2017 Guidelines and a justification of each departure. TasWater noted that the ET rates in the NSW Guidelines include trade waste and that TasWater's proposed rates have been adjusted to account for this, where appropriate. TasWater also noted that where the NSW Guidelines do not provide an ET rate, TasWater's proposed rate is based on the WSAA Sewerage Code, supplementary information or a local assessment.

As indicated, as part of the second pricing investigation, the Economic Regulator required TasWater to justify any departures in its ET methodology from these Guidelines and a table outlining the reasons for variations is currently available on TasWater's website. Similarly, the Economic Regulator intends to require TasWater to publish this information for the third regulatory period.

The Economic Regulator intends requiring TasWater to publish any other documents that are not publicly available, where they form the basis of its ET methodology.

Where customers face a material bill increase as a result of a change in the number of ETs following a reassessment, the Economic Regulator understands that TasWater's approach is as follows:

- meet with the customer or contact the customer by phone to advise of the outcomes from the reassessment;
- write to the customer advising of the changes that will be made from the next billing period; and
- provide details of flexible payment plans and hardship arrangements.

The Economic Regulator intends to accept TasWater's approach to dealing with customers facing a material bill increase following an ET reassessment.

The proposed Price and Service Plan conceded that the ET methodology has limitations. TasWater indicated that it will be undertaking a review of alternative sewerage charging methodologies operating in Australia to ascertain whether these might be applicable in Tasmania. TasWater also indicated that the review will include stakeholder engagement, will take into account the findings of other studies[65] and will inform a revised sewerage charging approach to be included in its proposed Price and Service Plan for the fourth regulatory period. The Economic Regulator intends supporting this review, as it may lead to an improved understanding about how to more accurately measure the load different property types place on the sewerage system and a more accurate charging approach, as well as greater transparency. The Economic Regulator also intends requiring TasWater to liaise with stakeholders and the Economic Regulator during the review, and to publish its findings when available.

12.11.3 Economic Regulator's draft conclusions on proposed ET methodology

The Economic Regulator notes that the application of the ET methodology has progressed considerably since the commencement of water and sewerage reform in Tasmania. However, it is an area where further improvements can be made with regard to transparency, understanding and accuracy of measurement. TasWater's proposed review of alternative sewerage charging methodologies should assist understanding in this area.

[65] TasWater refers to the *Inquiry into Reform Options for SA Water's Drinking Water and Sewerage Prices 2014*, undertaken by the Essential Services Commission of South Australia, available at: www.escosa.sa.gov.au/

Having reviewed TasWater's proposals in relation to ET methodology for the third regulatory period, the Economic Regulator intends to:

- *approve TasWater's proposal to apply the ET methodology in determining fixed sewerage charges;*
- *require TasWater to publish its justification of ET rates for property types that differ from those contained in the NSW Water Directorate's 2017 Section 64 Determinations of Equivalent Tenements Guidelines;*
- *require TasWater to publish any documents that are not publicly available, where they form the basis of its ET methodology;*
- *approve TasWater's approach to transitioning customers facing a material bill increase as a result of an ET reassessment;*
- *support TasWater's proposed review of alternative sewerage charging methodologies operating in Australia and require TasWater to liaise with stakeholders and the Economic Regulator as part of the review, and to publish its findings when available.*

The Economic Regulator also intends to seek feedback from stakeholders on TasWater's approach to transitioning customers facing a material bill increase as a result of an ET reassessment.

12.12 Trade Waste

Section 4.8 of Chapter 4 outlines TasWater's proposed trade waste charges policy.

In terms of pricing structure, TasWater's proposed trade waste prices are made up of:

- an application fee;
- an annual component; and
- fees for minor and major instances of non-compliance.

In its proposed Price and Service Plan, TasWater notes that it is intending to continue to apply the risk-based approach used during the second regulatory period to categorise trade waste customers. TasWater explains that this approach is based on the WSAA *Australian Sewage Quality Management Guideline 2012* and that it also has a Trade Waste Customer Category Guideline which outlines, in detail, the approach advocated under the WSAA Guideline. TasWater is currently reviewing its Category Guideline and intends publishing the revised version on its website at the same time that it publishes its final Price and Service Plan.

The Economic Regulator intends to require TasWater to publish its revised trade waste guideline at the same time that it publishes its final Price and Service Plan for the third regulatory period.

As in the second regulatory period, TasWater is proposing categorising customers into Categories 1, 2A, 2B, 2C, 3 and 4. While pricing for Category 3 and 4 trade waste is unregulated, the service TasWater provides to those customers continues to be regulated. TasWater's forecast of the number of customers in each category for the third regulatory period is shown in Table 12.3.

Table 12.3 TasWater's forecast number of trade waste customers by category

Category	2018-19	2019-20	2020-21
Category 1	1 038	1 043	1 048
Category 2A	2 235	2 245	2 255
Category 2B	119	119	132
Category 2C	131	131	132
Category 3	41	41	41
Category 4	37	37	37

As TasWater is not proposing to change its approach to trade waste pricing nor the method of categorising trade waste customers, the Economic Regulator intends approving the structure of TasWater's trade waste prices.

The Economic Regulator intends to approve the proposed structure of TasWater's trade waste prices.

12.13 Developer Charges

Section 4.9.1 of Chapter 4 describes TasWater's proposed developer charges policy and the Economic Regulator's assessment of that policy. Table 12.4 summarises TasWater's proposed application of developer charges.

Table 12.4 TasWater's proposed application of developer charges

Description	Inside serviced land	Outside serviced land
Capacity available within existing infrastructure	No developer charges	Developer to pay costs of extension and able to access available capacity at no charge
Capacity not available within existing infrastructure	Developer to pay the costs of expansion	Developer to pay costs of extension, connection and expansion and able to access, at no charge, spare existing capacity where less than total required capacity
Isolated development	N/A	Developer to meet all costs

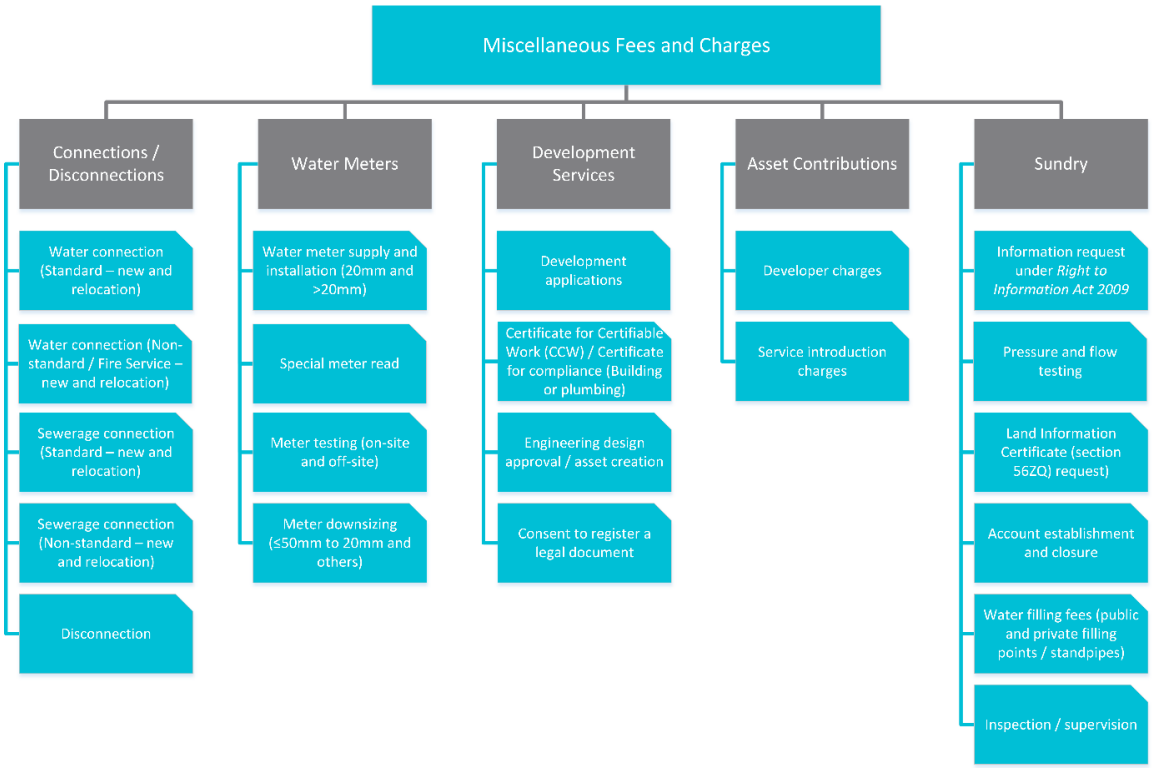
12.14 Miscellaneous services

Miscellaneous fees and charges are all fees and charges that may be charged by TasWater which are not fixed charges or variable charges. As with other regulated charges, miscellaneous fees and charges must be determined according to the pricing principles in the Industry Act and the Pricing Regulations and be included in TasWater's proposed Price and Service Plan. Figure 12.1 presents TasWater's proposed miscellaneous fees and charges in diagrammatic form.

Additionally, as set out in Chapter 5, for each proposed miscellaneous services fee, TasWater was required to include in its proposed Price and Service Plan, the key assumptions underlying, and the forecasts of, the estimated number of transactions for each financial year of the third regulatory period.

TasWater's fees and charges for each of its proposed miscellaneous services for the third regulatory period are set out in Table 13.13 in Chapter 13 of this Draft Report.

Figure 12.1 Structure of TasWater's proposed Miscellaneous Fees and Charges



The Economic Regulator intends to approve TasWater's proposed simplification of its development application fees structure.

The Economic Regulator intends to approve TasWater combining the Certificate for Certifiable Work/Certificate for Compliance fees and engineering design approval and asset creation services.

The Economic Regulator also intends to approve the structure of TasWater's proposed miscellaneous fees and charges.

12.15 Moving customers directly to target tariffs

TasWater's proposed Price and Service Plan outlines a number of situations where it proposes moving customers directly to the relevant target tariff.

However, the Economic Regulator notes that TasWater's proposed Price and Service Plan did not explain the basis upon which TasWater proposes moving or transitioning customers to the target tariff.

As shown in Table 12.5, for the second regulatory period, not all customers transitioned immediately to the target price. The Economic Regulator asked TasWater to explain why, for the third regulatory period, the customers in the scenarios listed all transition immediately to the target price and why the scenario "amalgamation (property change)" was not included.

In response TasWater considered that the scenarios listed can be grouped into three categories: (1) connection, customer or property change; (2) newly discovered connection or service; (3) change in service standard.

The first category (connection, customer or property change) can broadly be defined as customers who choose to alter an existing arrangement and are informed (or have the opportunity to inform themselves) of the impact on their water and/or sewerage charges. On this basis, TasWater believe it is reasonable for these customers to transition immediately to the target price. It also ensures the rest of the customer base is not unfairly burdened with covering the revenue shortfall that would eventuate if these customers did not transition immediately to the target price.

The second category (newly discovered connection or service) includes those customers who will receive a bill for a connection or a service for the first time. These customers do not have an existing price from which they would transition. TasWater is of the view that transitional prices are a mechanism to achieve a single set of target prices by the legislated date of 1 July 2020. TasWater does not believe customers with newly discovered connections (such as customers who will receive a new or additional bill for the first time) meet the intent of the transitional arrangements (which apply to existing customers with existing bills).

TasWater stated that if customers with newly discovered connections or services have difficulty paying their accounts, they are eligible for flexible payment plans in accordance with the Customer Service Code. In addition, residential customers have access to TasWater's Hardship Assistance Program as part of its Financial Hardship Policy.

The third category (change in service standard) includes those customers moving from a non-potable to a potable water supply. These customers will be liable for the full variable charge rather than a discounted rate when the change in service standard takes place.

TasWater consider that the inclusion of a scenario for amalgamation of properties is unnecessary. When customers choose to amalgamate multiple property titles under one Property Identifier Descriptor (PID) the way the property will be charged for sewerage and water services does not change. Under an amalgamation, the number of titles does not change regardless of the fact that they fall under one PID. Therefore, the number of titles will still be used in determining the number of water and sewerage charges and/or connections.

Table 12.5 Circumstances where customers will transition or be moved directly to target

Scenario	Basis of change	Target Tariff/s Applied in PSP3	Target Tariff/s Applied in PSP2	Transition to Target Tariff/s under price constraints in PSP2
Change in the property's predominant use	Property change	✓	✓	
Altered connection arrangements due to successful development application	Connection change	✓	✓	
Previously unconnected properties connect to water and/or sewerage infrastructure (including new sub-divisions)	Connection change	✓	✓	
Where a customer's property is already connected to water and/or sewerage infrastructure, but is currently not receiving charges (previously un-billed customer)	Customer change	✓	✓	
Newly discovered connection(s) to existing infrastructure	Connection change	✓		✓
Changes to existing connection points, ie change of connection size, including installation of sub-meters	Connection change	✓		✓
Existing water service customer should also be receiving a fire service charge	Connection change	✓		✓
New trade waste customer (applying for a consent)	Customer change	✓	✓	
Existing sewerage service customer who should be receiving a trade waste charge (previously unbilled trade waste)	Customer change	✓		✓
Adhesions (unless part of a development application)	Property change	✓		✓
Amalgamation	Property change	*NA*		✓
Demolition resulting in land becoming vacant	Property change	✓		✓
Change of ownership	Customer change	✓	✓	
Change from a permanent boil alert to a portable water supply (applies to variable charge only)	Service supplied change	✓	✓	

The Economic Regulator intends to approve TasWater's proposal in relation to transitioning or moving customers directly to target tariff subject to feedback from stakeholders.

13 PRICES AND CUSTOMER IMPACTS

This chapter provides an overview of TasWater's and the Economic Regulator's calculations of TasWater's maximum allowed regulated revenue and proposed price increases.

The chapter also analyses TasWater's proposed price transition and presents the Economic Regulator's assessment of customer impacts arising from the application of the proposed price increases.

13.1 Proposed price increases

As discussed in Chapter 11 regulated prices are set by reference to the MARR. TasWater calculated MARR for each year of the third regulatory period with the revenue shown in Table 11.1. If costs were permitted to be recovered at this level, TasWater calculated that annual prices would increase by 7.9 per cent.[66]

Based on its review of TasWater's proposed values for the building block components the Economic Regulator calculated TasWater's MARR, as shown in Table 11.4 (reproduced in Table 13.1).

TasWater is proposing an annual price increase of 4.6 per cent which is within customers' expectations (refer to Chapter 2), and which TasWater forecasts will result in the regulated revenue, as shown in Table 13.1. The forecast regulated revenue is below its proposed MARR.

However, the Economic Regulator's proposed MARR is below TasWater's forecast regulated revenue. TasWater's proposed annual price increase of 4.6 per cent will therefore result in TasWater receiving revenue above the maximum limit provided for under legislation. The Economic Regulator has therefore used TasWater's Pricing Model to determine a maximum annual price increase of 4.16 per cent to ensure that TasWater recovers only its efficient costs over the three years of the regulatory period.

TasWater's forecast regulated revenue is shown in Table 13.1 along with TasWater's and the Economic Regulator's calculations of TasWater's proposed MARR.

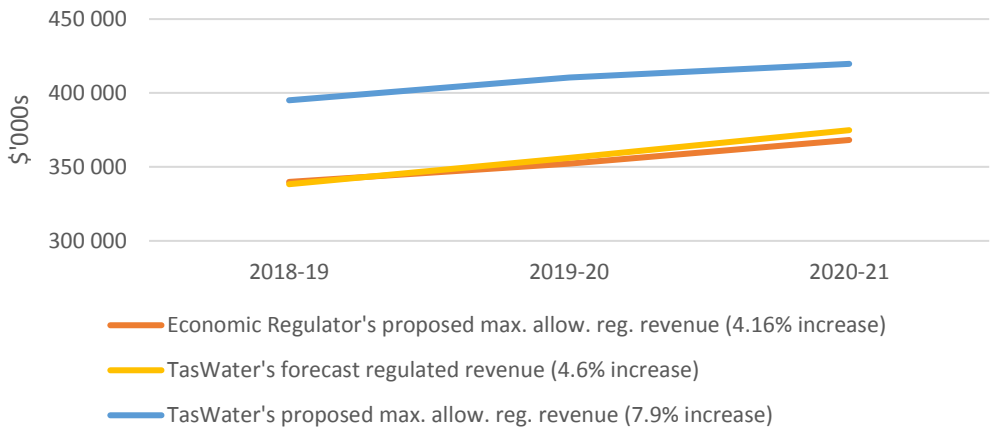
Table 13.1 Proposed regulated revenues for TasWater ($'000s)

	2018-19	2019-20	2020-21
TasWater's proposed maximum allowed regulated revenue	395 085	410 378	419 722
TasWater's forecast regulated revenue (4.6% price increase)	338 317	356 123	374 857
Economic Regulator's proposed maximum allowed regulated revenue	339 878	352 143	368 228

Figure 13.1 compares TasWater's proposed regulated revenue; TasWater's calculation of its maximum allowed regulated revenue; and the Economic Regulator's calculation of TasWater's maximum allowed regulated revenue.

[66] TasWater, Draft Price and Service Plan 3, 1 July 2018 to 30 June 2021, page 117.

Figure 13.1 Regulated revenue comparison



13.2 Proposed prices

TasWater's proposed prices are set out in Appendix 15 of its proposed Price and Service Plan. The Economic Regulator's proposed prices are outlined in full in Schedule 1 of its Draft Determination (Appendix 1). The Economic Regulator's proposed target tariffs are set out in Section 13.2.1 below.

13.2.1 Target tariffs

The Economic Regulator's proposed fixed water, variable water and sewerage target tariffs are presented in Tables 13.2, 13.3 and 13.4 respectively below (the 2017-18 target tariffs are also included for comparison purposes). Prices for customers who, at the end of the second regulatory period, are not on their respective target tariffs are discussed in Section 13.3.

Table 13.2 Economic Regulator's proposed target fixed water tariffs per connection for full service customers ($)

Water Connection Size	2017-18	2018-19	2019-20	2020-21
20mm	329.48	343.19	357.46	372.33

The fixed water target tariff for each connection size is calculated by multiplying the fixed water target tariff for a 20mm water connection by the relevant multiplier*.

Table 13.3 Economic Regulator's proposed target variable water charges per kilolitre of water ($)

	2017-18	2018-19	2019-20	2020-21
Full service (ie water of drinking water quality)	1.02	1.06	1.11	1.15

Table 13.4 Economic Regulator's proposed target fixed sewerage tariffs for full service customers per ET ($)

Number of ETs	2017-18	2018-19	2019-20	2020-21
1 ET	632.24	658.54	685.94	714.47

The target fixed sewerage charge for each connection is calculated by multiplying the target fixed sewerage for one ET by the applicable number of ETs*.

* Multipliers and ETs are discussed in Chapter 12.

13.2.2 Trade waste

TasWater's proposed trade waste charges policy and proposed structure of trade waste pricing were discussed in Sections 4.8 and 12.12 respectively. The following sections discuss TasWater's proposed trade waste fees and charges.

13.2.2.1 Trade waste fees and charges

For the third regulatory period TasWater has proposed the trade waste fees and charges set out in Tables 13.4 to 13.7 inclusive.

Table 13.4 TasWater's proposed trade waste application fee

	2018-19	2019-20	2020-21
Category 1	193	202	211
Category 2A	386	404	422
Category 2B	386	404	422
Category 2C	386	404	422

Table 13.5 TasWater's proposed annual trade waste charges

	2018-19	2019-20	2020-21
Category 1	572	599	626
Category 2A	938	981	1 026
Category 2B	1 316	1 377	1 440
Category 2C	1 974	2 065	2 160

Table 13.6 TasWater's proposed trade waste minor non-compliance fees

	2018-19	2019-20	2020-21
Category 1	1 145	1 197	1 252
Category 2A	1 876	1 962	2 053
Category 2B	2 633	2 754	2 880
Category 2C	3 948	4 130	4 320

Table 13.7 TasWater's proposed trade waste major non-compliance fees

	2018-19	2019-20	2020-21
Category 1	1 717	1 796	1 878
Category 2A	2 814	2 944	3 079
Category 2B	3 949	4 131	4 321
Category 2C	5 923	6 195	6 480

The application fees in the draft Price and Service Plan for Categories 2A, 2B and 2C were $386 while Category 1 was $193. Given the significant proposed increases in application fees the Economic Regulator sought TasWater's justification for its proposed fees. In response, TasWater advised that the intention was for a single trade waste application fee of $193 for 2018-19 for all category 1 and 2 trade waste customers. The Economic Regulator notes that TasWater did not explain the large proposed increase in this fee between 2017-18 and 2018-19 for all categories. The Economic Regulator therefore proposes that all trade waste fees and charges for 2018-19 increase by 4.16 per cent relative to 2017-18.

TasWater is proposing to increase its trade waste fees and charges by 4.6 per cent for each of the second and third years of the third regulatory period. The Economic Regulator intends approving the same 4.16 per cent increase in TasWater's trade waste fees and charges for 2019-20 and 2020-21. Table 13.8 outlines the Economic Regulator's proposed trade waste fees, target tariffs and charges for 2018-19 and, for comparison purposes, the fees, target tariffs and charges for 2017-18.

Table 13.8 Economic Regulator's proposed trade waste fees, target tariffs and charges by customer category (nominal dollars)[67]

Trade Waste Category	Application Fee	Annual Target Tariff	Non-Compliance Charge (Minor)	Non-Compliance Charge (Major)
1	147.52	569.88	1 139.79	1 709.65
2A	147.52	934.12	1 868.20	2 802.32
2B	147.52	1 310.79	2 621.58	3 932.37
2C	147.52	1 965.86	3 931.76	5 897.66

TasWater is proposing to transition trade waste customers to target on the same basis as approved for the second regulatory period, that is, by one third of the difference between the customer's bill for 2017-18 and the target for 2017-18. The Economic Regulator intends accepting TasWater's proposed transition approach for trade waste customers.

In section 4.3.3 of its proposed Price and Service Plan TasWater outlined its proposed approach to transitioning Category 3 and 4 trade waste customers to ensure that they are achieving long-term sewer acceptance limits and paying full charges by 1 July 2020. TasWater's approach includes determining fees and charges annually and negotiating a reasonable transition period for the customer to implement appropriate trade waste risk controls. As this approach is largely unchanged from the approach taken during the second regulatory period, the Economic Regulator intends to approve TasWater's approach.

67 These charges are to apply in 2018-19. The charges are to be increased by 4.16 per cent in each of the 2019-20 and 2020-21 financial years.

The Economic Regulator intends to require TasWater to apply the trade waste fees and charges for 2018-19, as set out in Table 13.8.

The Economic Regulator intends to require TasWater to increase its trade waste fees and charges for 2019-20 and 2020-21 by 4.16 per cent.

The Economic Regulator also intends to approve TasWater's proposed approach to transition trade waste customers to target for the third regulatory period.

The Economic Regulator intends to approve TasWater's proposed approach to transitioning Category 3 and 4 trade waste customers to cost reflective charges.

13.2.2.2 Trade waste site constraint fee

In its proposed Price and Service Plan, TasWater stated that some trade waste customers are unable to comply with its trade waste requirements due to heritage or other site constraints at their properties. For these customers, TasWater proposes a new fee to offset the impact on its sewerage systems, as outlined in Table 13.9 below.

Table 13.9 Trade waste site constraint fee ($)

	2018-19	2019-20	2020-21
All trade waste categories	1 097	1 148	1 201

The Economic Regulator sought further information from TasWater on the site constraint fee. TasWater stated that the proposed fee is in addition to the trade waste annual fee for customers to whom it applies.

The site constraint fee is set such that the net present value (NPV) of the fee is equal to the NPV of installing and maintaining a pre-treatment device that a typical (non-constrained) trade waste customer would otherwise have. The intent is to create equity between trade waste customers by ensuring there is no competitive advantage at a constrained site. Based on the information provided by TasWater, the Economic Regulator supports TasWater's proposed introduction of a site constraint fee. The Economic Regulator intends to approve TasWater increasing this fee by 4.16 per cent per annum during the third regulatory period.

The Economic Regulator's proposed Trade waste site constraint fee is set out in Table 13.10 below.

Table 13.10 Trade waste site constraint fee ($)

	2018-19	2019-20	2020-21
All trade waste categories	1 097	1143	1190

The Economic Regulator intends to accept TasWater's proposal to introduce a trade waste site constraint fee and intends to approve the proposed level of that fee for 2018-19.

The Economic Regulator also intends to approve TasWater increasing this fee by 4.16 per cent per annum during the third regulatory period.

13.2.2.3 Trade waste macerator charge

TasWater is proposing a new charge for macerators. Macerators are used in aged care facilities to shred disposable paper bedpans prior to discharge to the sewer. However, the proposed charge of $50 for 2018-19 is well short of the $500-$600 charged by mainland service providers for this service. Additionally, TasWater's proposed Price and Service Plan gives no indication of the likely transition path or ultimate price for this service.

TasWater stated that it is currently gathering data through its Asset Management Information System on the frequency, severity and costs of managing blockages from these systems. Since TasWater has not had quantitative data on the impacts on it system and costs, customer engagement has been opportunistic only. Given that it is not able to calculate a cost reflective price for waste from macerators, nor has TasWater consulted widely on a reflective charge, TasWater believes that the limited charge provides a signal to customers that there is an impact on its sewerage system and will provide the foundation to engage customers more fully during third regulatory period as part of its overall review of the sewerage charging methodology. Given the additional information provided by TasWater, the Economic Regulator supports TasWater's proposed introduction of a macerator fee. The Economic Regulator intends to approve TasWater increasing this fee by 4.16 per cent per annum during the third regulatory period

TasWater's proposed macerator charges for the third regulatory period are outlined in Table 13.11.

Table 13.11 TasWater's proposed trade waste macerator charge ($)

	2018-19	2019-20	2020-21
Macerator charge	50.00	52.30	54.71

The Economic Regulator's proposed macerator charges for the third regulatory period are outlined in Table 13.12.

Table 13.12 Economic Regulator's proposed trade waste macerator charge ($)

	2018-19	2019-20	2020-21
Macerator charge	50.00	52.08	54.25

The Economic Regulator intends to accept TasWater's proposal to introduce a macerator fee and intends to approve the proposed level of that fee for 2018-19.

The Economic Regulator also intends to approve TasWater increasing this fee by 4.16 per cent per annum during the third regulatory period.

13.2.3 Miscellaneous services

TasWater intends providing a wide range of miscellaneous services during the third regulatory period. The following sections outline the fees and charges TasWater proposes charging for these services.

13.2.3.1 Miscellaneous fees and charges

TasWater's fees and charges for each of its proposed miscellaneous services for each year of the third regulatory period are set out in Table 13.13.

Table 13.13 TasWater's proposed miscellaneous fees and charges ($)

Miscellaneous fees and charges	2017-18	2018-19	2019-20	2020-21
Water connections				
Standard 20mm connection	2 135.59	2 226	2 309	2 418
Standard 25mm connection	2 330.88	2 443	2 536	2 656
Non-standard water connection	POA	POA	POA	POA
20mm meter supply & installation	266.72	409	422	439
>20mm meter supply & installation	POA	POA	POA	POA
Wastewater connections				
Standard 100mm sewerage connection	1 556.70	1 596	1 652	1 723
Non-standard sewer connection	POA	POA	POA	POA
Disconnection				
Standard disconnection (water and/or sewerage)	444.83	455	471	493
Relocation				
Standard water connection relocation – under 3 metres	444.83	1 490	1 546	1 618
Water connection relocation – greater than 3 metres	POA	POA	POA	POA
Fire service				
Fire service installation	POA	POA	POA	POA
Water metering fees				
Special meter reads	55.00	60	61	63
Meter testing - onsite	73.95	80	82	84
Meter testing - offsite	POA	POA	POA	POA
Meter downsizing (50mm to 20mm)	359.81	375	389	409
Meter downsizing (all others)	POA	POA	POA	POA
Sundry Fees				
Right of information request	38.75	39	40	40
Pressure and flow testing ($/hour)	97.62	106	109	112
Section 56ZQ request	38.75	39	40	40
Account establishment and closure	N/a	49	50	51
Other regulated services				
Private filling stations ($/kL)	1.0202	1	1	1
Public filling stations ($/kL)	1.5727	1	2	2

Miscellaneous fees and charges	2017-18	2018-19	2019-20	2020-21
Security deposit (one off fee for public filling stations)	50	50	50	50
Portable metered standpipes (pro rata for time of use) ($/kL)	1.0202	1	1	1
e-card credit top up (processing fee)	5.77	6	6	6

TasWater advised that its miscellaneous fees and charges have been built up based on the various costs it incurs in providing the service.

The Economic Regulator requested that TasWater provide the unit costs of the fees showing how the total cost was derived. TasWater provided the input unit costs, input cost quantities and cost escalation factors and the resultant total costs. For example, in determining the fee for a standard water connection, TasWater has included the cost and quantities of labour, excavation equipment, pipes, plumbing supplies, and supporting tasks such as road opening permits and traffic control.

TasWater proposes that miscellaneous fees increase depending on the relevant escalation factors used in the cost build up (labour - 2.0 per cent and materials and services - between 4.38 per cent and 5.88 per cent).

The Economic Regulator identified the following omissions from TasWater's proposed schedule of miscellaneous prices when assessing TasWater's policies:

- Sewerage connection relocation (standard); and
- Sewerage connection relocation (non-standard).

In response TasWater provided the following information to be added to the Miscellaneous Fees and Charges table.

Table 13.14 Omitted sewerage relocation charges ($)

Miscellaneous fees and charges	2017-18	2018-19	2019-20	2020-21
Relocation				
Standard sewerage connection relocation – under 10 metres	1 556.70	1 566	1 625	1 702
Sewerage connection relocation – greater than 10 metres	POA	POA	POA	POA

The spreadsheet containing the unit costs did not include the Standard sewerage connection relocation – under 10 metres cost build up. However, the Economic Regulator notes that it is very similar to the Standard residential water connection relocation (under 3 metres) charge. On this basis, the Economic Regulator intends to accept TasWater's Standard sewerage connection relocation – under 10 metres fee.

TasWater has proposed a new account establishment and closure fee ($49 in 2018-19). The Economic Regulator asked TasWater to justify its account establishment and closure fee in terms of whether it reflected the cost of providing the service. In response, TasWater stated that the account establishment and closure service relates to the open/closure of accounts where TasWater does not do an out of cycle (special meter read) for the last read. The fee includes the administrative time taken to finalise an account and set up a new account. TasWater has retained a separate fee for special meter reads for other meter reads that do not relate to the open/closure of accounts. The fee is based on one hour of administrative labour to undertake this service for customers. Noting this additional information, the Economic Regulator intends to accept TasWater's proposed account establishment and closure fee.

On 1 November 2017, TasWater wrote to the Economic Regulator and stated that it had omitted the Inspection Costs fee from its proposed Price and Service Plan as the fee had not been applied during the second regulatory period. TasWater stated that it had inadvertently overlooked this fee and that it intended to retain the ability to recover these costs, which are ad hoc and highly variable.

TasWater noted that the fee relates to when another utility or development may be working around TasWater's pipes and TasWater needs to be on site to ensure that its services are not affected.

TasWater also noted that it is unable to forecast the revenue from this charge given its ad hoc nature and the fact that TasWater does not have any historical data from the second regulatory period.

TasWater noted that this fee is charged on an hourly basis and stated that there are three circumstances where this fee would be applied:

- Development assessments - the process and fees have been streamlined, including bundling of on-site inspections for each category of development. However, TasWater expects that there may be occasions where a customer/developer causes unreasonable delays or requires repeat site visits. An updated Development Application Form will outline TasWater's visit allowances, for example, a maximum of four site visits for a "minor" development application and the hourly charges that may apply for additional visits.
- Work near TasWater's critical or high risk infrastructure - where TasWater personnel are required to supervise work of a developer, utility, or contractor near its infrastructure to ensure that its services are not disrupted.
- Service isolation - turn off/on services to an area to allow third parties to connect or disconnect to its infrastructure. Routine service isolations are done at no charge. It is proposed that charges apply only when time spent by TasWater is unreasonable or irregular.

Table 13.15 sets out TasWater's proposed fees for these services.

Table 13.15 TasWater's proposed inspection/supervision fees ($/hr)

Description	2017-18	2018-19	2019-20	2020-21
The recovery of costs for: ▪ Additional on-site time for development assessment above that reasonably allowed (refer to TasWater Development Application form); ▪ On-site supervision of 3rd parties working near our infrastructure to avoid disruption to our customers'; and ▪ Non-routine service isolation.	53.56	58.93	60.11	61.31

For the 20mm meter supply and installation fee, according to TasWater's unit cost data, the large increase between the 2017-18 fee and the fees for the third regulatory period is due to an increase in meter costs from a recent tender.

For the third regulatory period, TasWater is proposing a threefold increase in the Standard water connection relocation - under 3 metres (from $444.83 to $1 490). The Economic Regulator's review of the cost build up for this service suggests that the actual cost for 2017-18 is $1 421 with $1 490 in 2018-19 representing a 4.8 per cent increase. In light of the evidence provided by TasWater, the Economic Regulator intends accepting the increase in the fee for this service.

The Economic Regulator conducted a benchmarking exercise to compare TasWater's proposed charges with charges imposed by comparable providers on mainland Australia.[68]

In some cases the Economic Regulator was unable to locate a charge for a similar service provided by a comparable provider or other providers charged a similar fee but on a different basis. For example, for a water meter installation Wannon Water excludes the cost of actually installing the meter, which is up to the customer to arrange via their own plumber.

Where services were comparable, the Economic Regulator found that:

- TasWater's proposed Special Meter Read was significantly higher than the charges imposed for these services by the comparable providers, except for North East Water.
- TasWater's proposed Standard Disconnection (water and/or sewerage) was significantly higher than the charges imposed for these services by two comparable providers.
- TasWater's proposed standard water connection fee (20mm connection), Standard 100mm Sewerage Connection fee, Meter Testing (onsite), Pressure and Flow Testing fees were lower or similar to the fees charged for those services by comparable providers.
- TasWater's proposed standard water connection fee (20mm connection) was significantly lower (21 per cent) than Barwon Water's fee for that service (Barwon Water was the only comparable utility for this particular fee).

Based on the outcomes from the benchmarking exercise, the Economic Regulator notes that some of TasWater's proposed miscellaneous fees and charges are higher than fees and charges imposed by comparable providers, others are lower than those charged by comparable providers whilst the remainder are similar to those charged by other providers.

The Economic Regulator noted that some of TasWater's proposed fees are to be determined on a "price on application" basis. The Economic Regulator considered this appropriate provided that the fee is determined on a cost reflective basis, as in some cases it is accepted that costs involved may vary due to, for example, the location of the property, the amount of materials required and the time taken to complete the job. The Economic Regulator notes that customers will have the right to query such fees through TasWater's complaints handling process and, if not then satisfied, may raise the issue with the Ombudsman.

The Economic Regulator <u>intends to approve</u> TasWater's proposed miscellaneous fees and charges with the addition of an account establishment and closure fee and sewerage relocation and inspection cost fees.

[68] The Economic Regulator compared TasWater's proposed fees and charges with those charged by Barwon Water, Goulburn Valley Water, North East Water and Wannon Water.

13.2.3.2 Development Assessment Service Fees

TasWater's proposed Price and Service Plan outlined a number of development assessment service fees it intends charging. These fees relate to the costs TasWater incurs in processing development, subdivision and building and plumbing applications. TasWater also provided the unit costs, cost input quantities and escalation factors and the resultant total costs of the development assessment service fees. TasWater stated that its proposed Price and Service Plan streamlines the process and fees for development customers.

TasWater has proposed replacing separate fees for rezoning, subdivision and non-subdivision (minor, medium, major and significant respectively) with one set of development application fees for minor, medium, major and significant developments. The proposed fees for 2018-19 represent the 2017-18 fees for Development applications - non subdivision increased by 4.6 per cent. To be cost reflective, the Economic Regulator considers that development application fees should increase by the labour cost escalation factor of 2 per cent (not 4.6 per cent) given that the input cost data from TasWater shows that the only input is labour.

As explained in section 4.9.1.3, the latest set of fees for Certificate for Certifiable Work/Certificate for Compliance and engineering design approval equal the relevant 2017-18 fees combined and increased by 4.6 per cent. To be cost reflective, the Economic Regulator considers that these fees should increase by the labour cost escalation factor of 2 per cent (not 4.6 per cent) given that the input cost data from TasWater shows that the only input is labour. TasWater's proposed fees are set out in Table 13.16 (together with, where relevant, the 2017-18 fees for comparison purposes). The Economic Regulator's proposed fees are outlined in Table 13.17.

Table 13.16 TasWater's proposed Development Assessment Service fees ($)

	2017-18	2018-19	2019-20	2020-21
Development Applications[69]				
Minor	232.89	216.49	226.45	236.87
Medium	433.91	359.35	376.88	393.17
Major	781.31	691.24	723.04	756.30
Significant	1 239.00	1 165.99	1 219.62	1 275.72
	Certificate for certifiable works/Certificate for compliance (building & plumbing applications)			
Minor	293.74	307.25	321.39	336.17
Medium	380.96	398.48	416.81	435.99
Major	429.11	448.85	469.5	491.09
Significant	541.53	566.44	592.50	629.75
CCW Exemption	38.81	40.60	42.46	44.42
	Engineering design approval			
Minor	291.02	304.41	31.418	333.06
Medium	552.63	578.05	604.64	632.45
Major	1 387.88	1 451.72	1 518.50	1 588.35
Significant	1 980.43	2 071.53	2 166.82	2 266.49
	Consent to register a Legal Document			
Minor	136.58	148.84	155.68	162.843
Medium	226.94	148.84	155.68	162.84
Major	226.94	148.84	155.68	162.84
Significant	226.94	148.84	155.68	162.84

69 Separate fees for the second regulatory period for rezoning, sub-division and non-subdivision have been replaced for the third regulatory period with a single fee for each development application category.

Table 13.17 Economic Regulator's proposed Development Assessment Service fees ($)

	2018-19	2019-20	2020-21
Development Applications			
Minor	211	215	220
Medium	350	357	365
Major	674	688	701
Significant	1 137	1 160	1 183
Certificate for certifiable works/Certificate for compliance (building & plumbing applications)			
Minor	300	306	312
Medium	389	396	404
Major	438	446	455
Significant	552	563	575
CCW Exemption	40	40	41
Engineering design approval			
Minor	297	303	309
Medium	564	575	586
Major	1 416	1 444	1 473
Significant	2 020	2 060	2 102
Consent to register a Legal Document			
Minor	149	152	155
Medium	149	152	155
Major	149	152	155
Significant	149	152	155

The Economic Regulator intends to approve TasWater's proposed development assessment fees.

The Economic Regulator also intends to approve TasWater's proposed development assessment fees for 2018-19, as set out in Table 13.17.

The Economic Regulator intends to require TasWater to increase development assessment service fees by the labour cost escalation factor of 2 per cent per annum.

13.3 Proposed price transition

TasWater was required to forecast the customer impacts resulting from its proposed price changes to enable the Economic Regulator to assess whether the customer impacts are being effectively managed.

TasWater was also required to demonstrate in its proposed Price and Service Plan how target tariffs and price transition paths for the third regulatory period will enable TasWater to comply with all pricing principles in the Industry Act by the end of the "transition period"[70], 1 July.

At the conclusion of its price determination investigation for the second regulatory period the Economic Regulator understood that, by the end of that period on 30 June 2018, all of TasWater's residential customers would be on target tariffs:

> In its proposed Price and Service Plan TasWater ….[stated] that its proposed price transition arrangements for the second regulatory period will result in all residential customers paying the same price for the same service by 1 July 2018, leaving a small group of commercial, industrial and institutional customers to transition to target tariffs by 2020.[71]

However, revised modelling carried out by TasWater has revealed that this is not the case and there remains a small number of residential customers that are also paying less than the water and sewerage target tariffs and who will continue to transition to target tariffs during the third regulatory period.

TasWater's proposed Price and Service Plan acknowledged that TasWater is required to fully comply with the Pricing Principles by the end of the Transition Period and, in this regard, notes that:

- 96 per cent of customers will reach target tariffs by 30 June 2018;
- 7 516 customers (4 252 residential and 3 264 non-residential) will not be on target tariffs as at 30 June 2018;
- 61 per cent of the 7 516 customers (4 594 customers) will reach target tariffs by 30 June 2019; a further 11 per cent by 30 June 2020; and the remaining 28 per cent on 1 July 2020.

The Economic Regulator requested further information on the 7 516 customers who are yet to reach their respective target tariffs. TasWater provided a spreadsheet containing de-identified customer level data, including the customer's fixed charges for 2017-18, the 2017-18 target tariffs and each a description of each customer's property end use.

The data shows that around 98 per cent of affected customers (around 7 336 customers) face an increase in their combined fixed charges for water and sewerage of up to 20 per cent in the first year of the third regulatory period, while, a small number of customers will face significant price increases over the third regulatory period in order to reach their respective target tariffs. TasWater proposes that these customers will be assigned a dedicated account manager who will provide early communication and explanation of price increases over the duration of the third regulatory period.

TasWater advised that account managers will work with these customers to find an appropriate payment option, including flexible payment plans for those that may have difficulty paying their accounts. In addition, residential customers who are transitioning to target tariffs will also have access to TasWater's Hardship Assistance Program as part of the Financial Hardship Policy.

[70] The transition period is defined in Regulation 32 of the Water and Sewerage Industry (Pricing and Related Matters) Regulations 2011

[71] Tasmanian Economic Regulator, 2015 Tasmanian Water and Sewerage Price Determination Investigation - Final Report, page 96.

Of the residential customers not on target tariffs:

- 3 567 (84 per cent) have a difference between their 2017-18 fixed charges and the 2017-18 fixed target tariff of less than $100 (of those customers 2 542 (58 per cent) have a difference of less than $50);
- 395 customers have a difference between their 2017-18 fixed charges and the 2017-18 fixed target tariffs of between $100 and $200; and
- the remaining 284 customers have a difference between their 2017-18 fixed charges and the 2017-18 fixed target tariff of greater than $200.

Based on the data TasWater provided to the Economic Regulator, of the 284 residential customers mentioned above, there are some customers with large differences, with 182 customers having a difference between their fixed charges and target tariffs of greater than $300 and 31 customers whose difference is over $3 000.

The 3 264 non-residential customers transitioning to target tariffs cover 158 different non-residential property types, including carparks, banks, motels, aged care facilities, schools and supermarkets. For these customers, the differences between their 2017-18 fixed charges and the 2017-18 fixed target tariffs ranges from $0.04 to $43 358 with 35 customers having differences greater than $10 000.

Based on the legislative requirement for all customers to be on target tariffs by 1 July 2020 TasWater initially proposed the following price transition arrangements for the third regulatory period:

- Where the difference between a customer's actual total bill (water and sewerage) and the target tariffs as at 30 June 2018 is greater than $300, the difference will close by one third in each year.
- Where the difference between a customer's actual total bill (water and sewerage) and the target tariffs as at 30 June 2018 is less than $300, the difference will close by up to $100 per year.

However, after discussions with the Economic Regulator about the complexity of apportioning a single bill increase between an individual customer's water and sewerage prices, TasWater proposed the following revised price transition method:

- If a customer, as at 30 June 2018, is paying less than their respective fixed water and/or sewerage target tariff, and if the difference between what they are paying and the relevant target tariff in period one of the third regulatory period is:
  - less than or equal to $50*, then the customer will move straight to the relevant target tariff in period one of the third regulatory period.
  - greater than $50*, then the customer's prices for water and sewerage respectively will increase each year by one third of the difference between the relevant target tariff in the third year of the third regulatory period and the price they paid at end of the second regulatory period.

    * multiplied by the applicable connection size multiplier and/or number of equivalent tenements.

TasWater considers that the revised price transition method balances simplicity, fairness and ensuring customers have reached their respective water and sewerage target tariffs by the end of the transition period. The Economic Regulator concurs with TasWater and considers TasWater's revised price transition method provides customers with greater clarity as to the prices they will be charged during the third regulatory period and therefore intends to accept TasWater's revised proposed price transition.

However, the Economic Regulator is concerned about the size of the price increases for some customers and intends requiring TasWater to write to all affected customers so that they are aware of the expected price increases.

The formulae for transitioning customers to target tariffs are outlined in Schedule 2 of the Draft Price Determination (Appendix 1).

The Economic Regulator intends to accept TasWater's revised proposed price transition for customers paying less than target tariffs.

The Economic Regulator also intends to require TasWater to write to all customers affected by the transition to target tariffs, prior to 30 June 2018, and inform them of the prices they will be charged in each year of the third regulatory period and the options available to them to assist in managing payments.

13.4 Customer impacts

As required under Section 15 of the Industry Act, the Economic Regulator has assessed the impact on customers arising from the application of its proposed price increase.

Table 94 of TasWater's proposed Price and Service Plan outlines the impact on customers of its proposed price increases of 4.6 per cent per annum with total bills increasing by $56 a year for a typical residential customer (water usage of 200kL per annum).[72]

Based on the prices for the second regulatory period and Economic Regulator's proposed prices for the third regulatory period Table 13.18 shows the cost to customers for a variety of water usage levels.

Compared to TasWater's proposal, under the Economic Regulator's proposed price increase, a typical residential customer on target tariffs for both water and sewerage and using 200 kL of water per annum would see their bill increase by an average of $50 a year.

[72] TasWater, 2017, page 133.

Table 13.18 Impact on customer bills from the Economic Regulator's proposed price increases

Bill component/water usage	Second regulatory period			Economic Regulator's proposed prices - third regulatory period		
	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21
50kl/annum						
Water Fixed	329	329	329	343	357	372
Water Variable	49	50	51	53	55	58
Sewerage	563	596	632	659	686	714
Total Bill	*941*	*976*	*1 013*	*1 055*	*1 099*	*1 144*
100kl/annum						
Water Fixed	329	329	329	343	357	372
Water Variable	97	100	102	106	111	115
Sewerage	563	596	632	659	686	714
Total Bill	*989*	*1 025*	*1 064*	*1 108*	*1 154*	*1 202*
150kl/annum						
Water Fixed	329	329	329	343	357	372
Water Variable	146	149	153	159	166	173
Sewerage	563	596	632	659	686	714
Total Bill	*1 038*	*1 075*	*1 115*	*1 161*	*1 209*	*1 260*
200kl/annum						
Water Fixed	329	329	329	343	357	372
Water Variable	194	199	204	213	221	231
Sewerage	563	596	632	659	686	714
Total Bill	*1 086*	*1 125*	*1 166*	*1 214*	*1 265*	*1 317*
400kl/annum						
Water Fixed	329	329	329	343	357	372
Water Variable	388	398	408	425	443	461
Sewerage	563	596	632	659	686	714
Total Bill	*1 281*	*1 324*	*1 370*	*1 427*	*1 486*	*1 548*

ACRONYMS AND GLOSSARY

Term	Meaning within the context of this Report
ADWG	Australian Drinking Water Guidelines.
Cap	A limit placed on annual price increases to manage the impact on customers (also referred to as a price constraint).
Capex	Capital expenditure, such as investment in assets.
Category 1, Category 2A, Category 2B and Category 2C trade waste customers	Trade waste customers assessed as having low grade or low to medium volumes of trade waste. Prices paid by Category 1, Category 2A, Category 2B and Category 2C trade waste customers are regulated.
Category 3 and Category 4 trade waste customers	Trade waste customers, other than Category 1, Category 2A, Category 2B and Category 2C trade waste customers, who produce trade waste assessed as being higher risk with respect to impact on the sewerage network. Prices paid by Category 3 and Category 4 trade waste customers are not regulated.
Connection charge	A cost-based charge for connecting a particular customer to TasWater's water or sewerage infrastructure.
Connection point	As defined in the Industry Act, the point where the customer's pipes connect to the water or sewerage infrastructure or such other point as may be prescribed in Regulations.
Contributed assets	Include developer charges and government grants but exclude equity contributions from the owners of the regulated entity.
CPI	Consumer Price Index.
Customer	As defined in the Industry Act: ▪ an owner or, owner and occupier, of a property that is connected to a regulated entity's water or sewerage infrastructure (including strata title lot owners); or ▪ an occupier of a property that is connected to a regulated entity's water or sewerage infrastructure who is liable for water and sewerage charges; or ▪ an owner or occupier of a property that is not connected to a regulated entity's water or sewerage infrastructure but where a regulated service is available and a regulated entity imposes a service charge for that service; or ▪ an occupier of a property that is connected to a regulated entity's water infrastructure or sewerage infrastructure and is liable for service charges.

Term	Meaning within the context of this Report
Customer Service Code	*Tasmanian Water and Sewerage Industry Customer Service Code.*
Customer Service Regulations	*Water and Sewerage Industry (Customer Service Standards) Regulations 2009.*
Delegate for Dam Safety Regulation	Secretary of the Department of Primary Industries, Parks, Water and Environment (DPIPWE).
Developer charges	Includes headworks charges, assets gifted by developers and cash payments made by developers to the regulated entity for the construction of new reticulation works.
DHHS	Department of Health and Human Services.
Director of Public Health	Director of Public Health appointed under section 6 of the *Public Health Act 1997.*
DPIPWE	Department of Primary Industries, Parks, Water and Environment.
DORC	Depreciated Optimised Replacement Cost.
DWQMP	Drinking Water Quality Management Plan.
Economic Regulator	The Tasmanian Economic Regulator as appointed under the *Economic Regulator Act 2009.*
EPA	Environment Protection Authority.
Equivalent Tenement (ET)	A measure of the demand that a development will place on infrastructure in terms of water consumption and sewage discharge, compared to a standard residential allotment. An ET is also the basis for calculating fixed sewerage target tariffs.
Existing assets	All assets transferred to a regulated entity before 1 July 2011 under section 41 of the *Water and Sewerage Corporations Act 2008*.
First regulatory period	1 July 2012 to 30 June 2015.
Fixed charge	A recurrent charge for the provision of a regulated service to a customer but not including a variable charge.
Full cost recovery	A revenue limit that results in a regulated entity recovering all of the costs associated with providing a regulated service.
Headworks assets	Water or sewerage infrastructure, excluding reticulation assets and private plumbing, including dams, reservoirs, water treatment plants, sewerage treatment plants, pump stations, water and sewerage trunk mains.
Headworks charges	A form of developer charge levied as a contribution towards the cost of existing or proposed headworks assets used to service developments.
Industry Act	*Water and Sewerage Industry Act 2008.*

Term	Meaning within the context of this Report
Industry regulators	Parties, other than the Economic Regulator, that have responsibility for regulating aspects of the Tasmanian water and sewerage industry (for example, the Delegate for Dam Safety Regulation, the Director of Public Health and the Director EPA).
Kilolitre (kL)	A metric unit of volume or capacity equal to 1 000 litres.
kPa	A metric measure of pressure.
Limited water quality customer	A customer receiving water from a supply which has a permanent boil water alert in place or a customer receiving water from a supply that the regulated entity has declared to be not of drinking water quality.
Limited water supply customer	A customer: ▪ connected to a water main that periodically does not contain water under positive pressure; or ▪ with a connection designed to provide low or intermittent flow, such as where the customer has been required to install, operation and maintain an individual tank or pump; or ▪ connected to a non-reticulation water main that is subject to significant pressure variations due to either: o a pumped supply where the low pressure is below 50 kPa and the high pressure is above 500 kPa; or o an inlet supply to a trunk reservoir such that when the reservoir inlet valve is open the pressure is below 50 kPa; or ▪ receiving a supply that the regulated entity determines to be inadequate.
MARR	Maximum allowed regulated revenue.
Minister	Minister for Primary Industries and Water.
Motor home dump point	A facility intended to receive the discharge of waste water from any holding tank or similar device installed in a recreational vehicle.
New assets	All assets purchased or constructed by a regulated entity since 1 July 2009.
Nominal dollars	The actual price of an item during a specific year, meaning, nominal dollars are not adjusted for the effects of inflation.
NPV	Net Present Value.
NWI	National Water Initiative.
Opex	Operating and maintenance expenditure, such as the cost of operating and maintaining the water and sewerage systems and associated administrative costs (also referred to as OM).
Owners' Representative	A representative from each of Tasmania's 29 councils who, together, comprise TasWater's Owners' Representatives' Group. The Group's functions, duties and responsibilities are outlined in TasWater's Constitution and in the Shareholders' Letter of Expectations.

Term	Meaning within the context of this Report
Portable metered standpipes	A portable water hydrant which allows a customer to connect and draw water at authorised points throughout a regulated entity's network.
Previous regulated entities	Collectively the Tasmanian Water and Sewerage Corporation (Northern Region) Pty Ltd trading as Ben Lomond Water, the Tasmanian Water and Sewerage Corporation (North Western Region) Pty Ltd trading as Cradle Mountain Water and the Tasmanian Water and Sewerage Corporation (Southern Region) Pty Ltd trading as Southern Water.
Price and Service Plan	A regulated entity's Price and Service Plan approved by the Economic Regulator under section 65 of the Industry Act.
Price constraints	A limit placed on annual price increases to manage the impact on customers (also referred to as caps).
Price Determination	A determination made by the Economic Regulator under section 66 of the Industry Act. A determination sets out, for a regulatory period, the maximum prices a regulated entity can charge for its regulated services.
Price Determination Investigation	An investigation conducted to gather information required by the Economic Regulator before making a Price Determination in respect of a regulated service.
Pricing principles	The principles set out in sections 68 and 68AA of the Industry Act and in the Pricing Regulations.
Pricing Regulations	*Water and Sewerage Industry (Pricing and Related Matters) Regulations 2011.*
Pricing zones	An area of land where a single price schedule applies.
Proposed Price and Service Plan	A Price and Service Plan submitted by a regulated entity under section 65 of the Industry Act.
PSP Guideline	The Price and Service Plan Guideline published by the Economic Regulator in November 2013.
RAB	Value of a regulated entities' regulated asset base.
RBA	Reserve Bank of Australia.
Regulated assets	Assets used to provide regulated services.
Regulated entity	A person holding a licence under the Industry Act [currently, the Tasmanian Water and Sewerage Corporation Pty Ltd trading as TasWater].
Regulated services	Services or activities for which a licence is required under section 30 of the Industry Act.
Regulatory period	A period covered by a Price Determination.
Reticulation assets	Water or sewerage infrastructure that are not headworks assets or private plumbing.
Reuse water	Water discharged from a sewage treatment plant that is reused for purposes such as irrigation.

Term	Meaning within the context of this Report
Ring fencing	The separation of a regulated entity's accounts for the purpose of economic regulation, including splitting between regulated and unregulated components.
Ring Fencing Guideline	The Economic Regulator's *Water and Sewerage Regulatory Accounting Ring Fencing Guideline - March 2016*.
Second regulatory period	1 July 2015 to 30 June 2018.
Section 61 contract	A contract between a regulated entity and a customer in accordance with section 61 of the Industry Act, related to the provision of regulated services but not subject to the prices and terms in the Price Determination.
Service introduction charges	A charge on a property to recover the cost of installing, altering or utilising a regulated entity's assets so that it can provide a regulated service to that property (excludes a connection charge, fixed charge or a developer charge).
STED customers	Septic Tank Effluent Disposal customers.
STEDs	Septic Tank Effluent Disposal Schemes.
Target tariff	Cost reflective tariffs for each regulated service.
Tariffs	Prices charged by a regulated entity for the provision of regulated services made up of fixed charges, variable charges and miscellaneous fees and charges.
TasWater	Tasmanian Water and Sewerage Corporation Pty Ltd.
TDWQG	Tasmanian Drinking Water Quality Guidelines.
TFS	Tasmania Fire Service.
Third regulatory period	1 July 2018 to 30 June 2021.
Third party capital contributions	Third party capital contributions include developer charges, service introduction charges and government grants.
Trade waste	As defined in the Industry Act, trade waste is liquid waste generated other than in the course of domestic activities and includes liquid waste generated by any trade, industrial, commercial, educational, medical, dental, veterinary, agricultural, horticultural, scientific research or experimental activities.
Transition period	The period from 1 July 2012 to 1 July 2020 (prescribed in Regulation 32 of the Pricing Regulations.)
Transitional service standards	Approved customer service standards applying in each year of the transition period. The approved standards represent a transition to the service standard targets set out in the Customer Service Code.
Unregulated assets	Assets used to provide unregulated services.
Unregulated services	Services that are not subject to regulation including water for irrigation, reuse water and stormwater services via a combined sewerage stormwater system.

Term	Meaning within the context of this Report
Variable charge	A charge based on the volume of water delivered to, or sewage removed, as measured by a meter, from, the property to which the charge relates.
Water Directorate	A NSW based association providing technical advice to councils in NSW in relation to water and sewerage issues and publisher of the *Section 64 Determinations of Equivalent Tenements Guidelines (January 2005)*.
Water and Sewerage Corporation Act	*Water and Sewerage Corporation Act 2012*.
WACC	Weighted average cost of capital.
WSAA	Water Services Association of Australia.
WSAA Guideline	Water Services Association of Australia – *Australian Sewerage Quality Management Guideline 2012.*
WWTP	Wastewater Treatment Plant.

TASMANIAN WATER AND SEWERAGE CORPORATION PTY LTD

ACN 162 220 653

WATER AND SEWERAGE SERVICES PRICE DETERMINATION

1 JULY 2018 – 30 JUNE 2021

CONTENTS

Having undertaken an investigation into the Tasmanian Water and Sewerage Corporation Pty Ltd's (ACN 162 220 653) proposed prices in regard to its provision of regulated water and sewerage services in Tasmania, I make, in accordance with the *Water and Sewerage Industry Act 2008* (the Act), the following Determination under section 66 of the Act.

Dated: DD MMM YYYY

Joe Dimasi

TASMANIAN ECONOMIC REGULATOR

1 Effective period

This Determination takes effect on 1 July 2018 and ceases to have effect after 30 June 2021.

2 Application

This Determination applies to the Tasmanian Water and Sewerage Corporation Pty Ltd (ACN 162 220 653) trading as TasWater (hereinafter referred to as 'TasWater') in respect of the regulated services provided by TasWater within Tasmania during the period of this Determination.

In accordance with subsection 67(7) of the *Water and Sewerage Industry Act 2008*, this Determination is binding on TasWater.

3 Purpose and Reasons

The purpose of, and reasons for, the making of this Determination are to:

a) specify prices and maximum fees and charges which TasWater may charge for regulated services during the regulatory period or the manner in which such prices are to be calculated or otherwise determined; and

b) reflect the achievement of the Regulator's obligations, and respective price determination requirements, under the *Water and Sewerage Industry Act 2008* and *Water and Sewerage Industry (Pricing and Related Matters) Regulations 2011*.

4 Interpretation and Definitions

a) Interpretation

(i) Unless the contrary intention appears an expression not defined in this Determination has the same meaning as it has in the *Water and Sewerage Industry Act 2008*, the *Water and Sewerage Industry (Pricing and Related Matters) Regulations 2011,* or in the Tasmanian Water and Sewerage Industry Customer Service Code.

(ii) Any questions arising from the interpretation of this Determination will be determined by the Regulator.

b) Definitions

In this Determination:

Connection policy	means the policy referred to in subsection 56U(1)(a) of the *Water and Sewerage Industry Act 2008*
Customer contract	has the same meaning as in the *Water and Sewerage Industry Act 2008*

Developer charges policy	means the policy referred to in Regulation 8 of the *Water and Sewerage Industry (Pricing and Related Matters) Regulations 2011*
Miscellaneous fees and charges	means the fees and charges referred to in regulation 21 of the *Water and Sewerage Industry (Pricing and Related Matters) Regulations 2011*, namely, all fees and charges that may be charged by TasWater and that are not fixed charges, variable charges, developer charges or service introduction charges
Price and Service Plan	has the same meaning as in the *Water and Sewerage Industry Act 2008*
Price Transition	means the approach, as set out in Schedule 2 of this draft determination, to transitioning customers paying below the target tariffs as at 30 June 2018 to target tariffs during the third regulatory period
PSP Guideline	means the guideline issued by the Regulator in June 2016 under subsection 65(7) of the *Water and Sewerage Industry Act 2008* for the preparation of a proposed Price and Service Plan
Regulatory period	the period from 1 July 2018 to 30 June 2021 inclusive
Service extension and expansion policy	means the policy referred to in subsection 56J(2)(a) of the *Water and Sewerage Industry Act 2008*
Service introduction charges policy	means the policy referred to in Regulation 9 of the *Water and Sewerage Industry (Pricing and Related Matters) Regulations 2011*
Service charges policy	means the policy referred to in subsection 68A(1)(a) of the *Water and Sewerage Industry Act 2008*
Sub-metering policy	means the policy referred to in subclause 10.1 of the PSP Guideline
Tasmanian Water and Sewerage Industry Customer Service Code	means the customer service code issued by the Regulator under subsection 57(1) of the *Water and Sewerage Industry Act 2008*
TasWater	means the Tasmanian Water and Sewerage Corporation Pty Ltd (ACN 162 220 653)

Trade waste charges policy	means the policy referred to in subclause 10.1 of the PSP Guideline
The 2018 Water and Sewerage Industry Price Determination Investigation Final Report	means the Final Report to be released by the Regulator in April 2018 after the completion of the Water and Sewerage Industry Price Determination Investigation in relation to TasWater's provision of regulated services

5 Requirement to comply with Price and Service Plan

a) TasWater must comply with the Price and Service Plan as approved by the Regulator.

b) The Price and Service Plan, submitted by TasWater to the Regulator for approval, must comply with the *Water and Sewerage Industry Act 2008*, the *Water and Sewerage Industry (Pricing and Related Matters) Regulations 2011* and the PSP Guideline.

c) The Price and Service Plan, submitted by TasWater to the Regulator for approval, must be consistent with the Regulator's decisions and requirements in the 2018 Water and Sewerage Industry Price Determination Investigation Final Report.

d) The Price and Service Plan, submitted by TasWater to the Regulator for approval, must include any customer contracts and the following prescribed policies:

   i) Service extension and expansion policy [Note 1];

   ii) Developer charges policy [Note 1];

   iii) Connection policy [Note 2];

   iv) Service introduction charges policy [Note 2] ;

   v) Service charges policy [Note 2];

   vi) Sub-metering policy [Note 2] ; and

   vii) Trade waste charges policy.

e) The Price and Service Plan, submitted by TasWater to the Regulator for approval, must include:

   i) a description of the land, whether identified by individual title or by locality, TasWater will permit to be connected to its water infrastructure or sewerage infrastructure [Note 2];

   ii) all miscellaneous fees and charges; and

   iii) all anticipated changes, over time, of any prices specified in the Price and Service Plan.

Notes:

1. In its proposed Price and Service Plan for the third regulatory period TasWater aggregated its Service extension and expansion policy and its developer charges policy into a single Land Development Policy.

2. In its proposed Price and Service Plan for the third regulatory period TasWater aggregated its service charges policy, connection policy, sub-metering policy, service introduction charges policy into a single Water and Sewerage Network and Charges Policy. This combined Policy also includes TasWater's description of serviced land.

6 Requirement to apply prices as determined

a) TasWater must apply the prices as set out in Schedule 1 and the prices calculated in accordance with the Price Transition formulae as set out in Schedule 2 to this Determination.

b) TasWater must not charge for trade waste more than the charges for trade waste as set out in Schedule 3 to this Determination.

c) TasWater must not charge for miscellaneous services more than the miscellaneous fees and charges as set out in the Price and Service Plan as approved by the Regulator.

Schedule 1 – Prices

Table 1 Target tariffs – Fixed water charges (nominal dollars)

Connection size	2018-19	2019-20	2020-21
20mm	343.19	357.46	372.33

These tariffs apply to customers with a standard 20mm connection. Customers with larger connections need to apply the connection size multipliers contained in Table 4 to calculate their individual target tariffs for each year of the regulatory period.

Table 2 Target tariffs – Sewerage charges (nominal dollars)

	2018-19	2019-20	2020-21
Fixed – Per Equivalent Tenement (ET)	658.54	685.94	714.47

Table 3 Target tariffs – variable water charges (nominal dollars)

	2018-19	2019-20	2020-21
Water of drinking water quality ($/kL)	1.06	1.11	1.15
Water not of drinking water quality ($/kL)[Note 1]	0.85	0.89	0.92

Note 1: This variable water charge represents the 'Limited Water Quality' target tariff.

Table 4 Connection size multipliers

Connection size (mm)	Multiplier
20	1.00
25	1.56
30	2.25
32	2.56
40	4.00
50	6.25
65	10.56
75	14.06
80	16.00
100	25.00
150	56.25
200	100.00
250	156.25

Table 5 Target tariffs – Motor home dump points (nominal dollars)

	2018-19	2019-20	2020-21
Fixed sewerage (One ET)	658.54	685.94	714.47

Table 6 Target tariffs – Fire service fixed charge (nominal dollars)

Connection size	2018-19	2019-20	2020-21
20mm	85.79	89.35	93.07

These tariffs apply to customers with a standard 20mm connection. Customers with larger connections need to apply the connection size multipliers contained in Table 4 to calculate their individual target tariffs for each year of the regulatory period.

Table 7 Target tariffs – Limited water supply customers (nominal dollars)

Connection size	2018-19	2019-2020	2020-21
20mm	308.86	321.70	335.09

These tariffs apply to customers with a standard 20mm connection. Customers with larger connections need to apply the connection size multipliers contained in Table 3 to calculate their individual target tariffs for each year of the regulatory period.

Table 8 Private Filling Stations (nominal dollars)

	2018-19	2019-20	2020-21
Fixed charge per annum	343.19	357.46	372.33
Volumetric Charge ($/kL)	1.06	1.11	1.15

The fixed charge applies to customers with a standard 20 mm connection. The fixed charge for customers with larger connections for each year of the regulatory period is calculated by applying the connection size multipliers contained in Table 3.

Table 9 Public Filling Stations – e-card and registered keys (nominal dollars)

	2018-19	2019-20	2020-21
Volumetric Charge ($/kL)	1.64	1.71	1.78
e-card credit top up (processing fee)	6.01	6.26	6.52
Security deposit (one-off fee)	52.08	54.25	56.50

Table 10 Public Filling Stations – 500L tokens (nominal dollars)

	2018-19	2019-20	2020-21
Total charge per token	0.82	0.85	0.89

Table 11 Portable Metered Standpipes (nominal dollars)

	2018-19	2019-20	2020-21
Fixed Charge	343.19	357.46	372.33
Volumetric Charge ($/kL)	1.06	1.11	1.15

The fixed charge applies to customers with a standard 20mm connection. The fixed charge for customers with larger connections for each year of the regulatory period is calculated by applying the connection size multipliers contained in Table 3.

Table 12 Target tariffs – STEDs (nominal dollars)

	2018-19	2019-20	2020-21
Fixed – Per Equivalent Tenement (ET)	460.98	480.16	500.13

* Septic Tank Effluent Disposal schemes

Schedule 2 – Price Transition

Assumptions

$C_m = Connection\ size\ multiplier$

$ET =$ Equivalent Tenement

$FS =$ Fire Service Fixed Charge

$SF =$ Sewerage Fixed Charge Tariff

$t =$ target

$TW =$ Trade Waste

$V = Variable\ Charge\ (\$/kL)$

$WF =$ Water Fixed Charge Tariff

$_* =$ Annual transition change

$_0 =$ 2017-18

$_1 =$ 2018-19

$_2 =$ 2019-20

$_3 =$ 2020-21

<u>Examples</u>

$V_0 =$ Variable Charge for 2017-18

$WFt_1 =$ Water Fixed Charge target for 2018-19

Variable charge (*V*)

If $V_0 < Vt_0$

Then:

$$V_* = \frac{(Vt_3 - V_0)}{3}$$

$$V_1 = V_0 + V_*$$

$$V_2 = V_1 + V_*$$

$$V_3 = Vt_3$$

Trade Waste (*TW*)

If $TW_0 \neq TWt_0$

Then:

$$TW_* = \frac{(TWt_3 - TW_0)}{3}$$

$$TW_1 = TW_0 + TW_*$$

$$TW_2 = TW_1 + TW_*$$

$$TW_3 = TWt_3$$

Fire Service Fixed Charge (*FS*)

If $FS_0 \neq FSt_0$

Then:

$$FS_* = \frac{(FSt_3 - FS_0)}{3}$$

$$FS_1 = FS_0 + FS_*$$

$$FS_2 = FS_1 + FS_*$$

$$FS_3 = FSt_3$$

Transition Formulae for fixed water and fixed sewerage charges

$if\ (WF_0 \neq WF_{t0} * C_m)\ and$:

$if\ (WF_{t1} * C_m - WF_0) \leq \$50 * C_m\ then$:

$$WF_1 = WF_{t1} * C_m$$

$$WF_2 = WF_{t2} * C_m$$

$$WF_3 = WF_{t3} * C_m$$

$if\ (WF_{t1} * C_m - WF_0) > \$50 * C_m\ then$:

$$WF_* = (WF_{t3} * C_m - WF_0)/3$$

$$WF_1 = (WF_0 + WF_*)$$

$$WF_2 = (WF_1 + WF_*)$$

$$WF_3 = WF_{t3} * C_m$$

$if\ (SF_0 \neq SF_{t0} * ET\ )\ and$:

$if\ (SF_{t1} * ET - SF_0) \leq \$50 * ET\ then$:

$$SF_1 = SF_{t1} * ET$$

$$SF_2 = SF_{t2} * ET$$

$$SF_3 = SF_{t3} * ET$$

$if\ (SF_{t1} * ET - SF_0) > \$50 * ET\ then$:

$$SF_* = (SF_{t3} * ET - SF_0)/3$$

$$SF_1 = (SF_0 + SF_*)$$

$$SF_2 = (SF_1 + SF_*)$$

$$SF_3 = SF_{t3} * ET$$

Schedule 3 – Trade Waste charges

Table 12 Charges by customer category and type of charge (nominal dollars)

Trade Waste Category	Application Fee	Annual Target Tariff	Non-Compliance Charge (Minor)	Non-Compliance Charge (Major)
1	147.52	569.88	1 139.79	1 709.65
2A	147.52	934.12	1 868.20	2 802.32
2B	147.52	1 310.79	2 621.58	3 932.37
2C	147.52	1 965.86	3 931.76	5 897.66

These charges are to apply in 2018-19. The charges are to be increased by 4.16 per cent in each of the 2019-20 and 2020-21 financial years.

Price and Service Plan 2018-21

DRAFT V4.0 – 28 September 2017

Customer Contract

CUSTOMER CONTRACT

TASMANIAN WATER AND SEWERAGE CORPORATION PTY LIMITED

ACN 162 220 653

This Contract is effective from 1 July 2018

TABLE OF CONTENTS

This Contract is about the provision of Water Services and Sewerage Services to You at your property.

The Contract commences without You having to sign any documentation.

The terms of the Contract are approved by the Regulator under the Act.

In addition to this Contract, the *Water Management Act 1999* (Tas) and other consumer laws also contain rules about the provision of Water Services and Sewerage Services and we will comply with these rules in our dealings with You.

1 INTRODUCTION

1.1 What do words used in this Contract mean?

Terms used in this Contract have the same meanings as they have in the Act, Regulations and Code. For convenience, an explanation of some terms is given In Schedule 1 of this Contract.

2 THE PARTIES

2.1 What is a Customer Contract?

The Contract is between:

(a) Tasmanian Water and Sewerage Corporation Pty Limited ACN 162 220 653 (**TasWater**) (in this Contract referred to as 'we', 'our' or 'us') who provides Services to You, where available; and

(b) You, the Customer to whom this Contract applies (in this Contract referred to as 'You').

2.2 Who is covered by this Contract?

Subject to clause 2.3, You are our Customer and covered by this Contract if You are:

(a) the Owner and Occupier of a property that is connected to our Infrastructure; or

(b) the Owner (but not an Occupier) of a property that is connected to our Infrastructure; or

(c) the Occupier of a property that is connected to our Infrastructure and is liable for a Service Charge.

If You are the Owner or Occupier of a property that is not connected to our Infrastructure but to which a Service is available from us and we impose a Service Charge, You are also our Customer and covered by this Contract, except for:

(d) clause 4 (What Water Services do we provide?) apart from clause 4.2 (New Water connections to your property);

(e) clause 5 (What Sewerage Services do we provide?) apart from clause 5.2 (New sewerage

connections to your property);

(f) clause 6 (Trade Waste);

(g) clause 9 (Water Meter installation, testing and maintenance);

(h) clause 10 (Factors affecting Service); and

(i) clause 11 (Disconnection or restriction of Services).

2.3 Who is not covered by this Contract?

You are not a Customer under this Contract if:

(a) we have not authorised your connection to our Infrastructure; or

(b) we have entered into a separate agreement with You under section 61 of the Act.

2.4 When does this Customer Contract commence?

(a) Subject to the payment of any Security Deposit under clause 3 (Are You required to pay us a Security Deposit?), this Contract commences on 1 July 2018.

(b) On its commencement, this version of the Contract replaces any previous contract between You and us unless:

(i) You have a separate agreement with us – for example a non-standard Water or sewerage agreement under section 61 of the Act – in which case that other agreement will continue to apply; or

(ii) prohibited by law,

and any rights and liabilities that have accrued under any previous contract or agreement with us will be merged into this Contract.

2.5 How can this Contract be varied?

We may vary this Contract as permitted by the Act.

3 ARE YOU REQUIRED TO PAY US A SECURITY DEPOSIT?

3.1 When can You be required to pay us a Security Deposit?

In certain circumstances we may require You to pay us a Security Deposit. These circumstances are set out in the Code. We will comply with the Code and other relevant legislation in relation to the requirement for, the use of, and return of the Security Deposit.

3.2 What happens if You don't pay a Security Deposit to us when we ask You to?

If You do not comply with our requirement for You to pay us a Security Deposit You cannot enter into this Contract.

4 WHAT WATER SERVICES DO WE PROVIDE?

4.1 Connection to your property

As long as your property is connected to our Water Infrastructure we will deliver Water to the Connection Point, except:

(a) in the case of an Unplanned Interruption under clause 10.1 (Unplanned Interruptions) or a Planned Interruption under clause 10.2 (Planned Interruptions); or

(b) where a declaration has been issued under clause 10.3 (Minister's declaration) or we have determined that the circumstances in clause 10.4 (Water shortages) apply; or

(c) where we restrict or Disconnect supply under clause 11 (Disconnection or restriction of Services); or

(d) in the case of events beyond our reasonable control that impact our ability to provide Water to you.

4.2 New Water connections to your property

As long as your property:

(a) has not been Disconnected by us; and

(b) meets the requirements of connection specified in our Connection Policy,

then we will arrange and provide for a connection(s) to your property within 10 Business Days (or such later date as we both may agree).

4.3 Water quality

Subject to clause 4.4 (Non-potable Water), clause 4.5 (Water flow rate) and your property being connected to our Water Infrastructure, we will supply Water to the Connection Point at your property in accordance with relevant warranties contained in clause 8 (TasWater Warranties).

4.4 Non-potable Water

If You are a Limited Water Quality Customer we will supply Non-potable Water to the Connection Point at your property, in accordance with the relevant warranties contained in clause 8 (TasWater Warranties), except that the Non-potable Water is not suitable for consumption:

(a) prior to boiling the Non-potable Water (if the consumption of that Non-potable Water is subject to a notice to boil the Non-potable Water prior to consumption); or

(b) at all (if the consumption of that Non-potable Water is subject to a notice not to consume the Non-potable Water).

Prior to entering into this Contract You acknowledge and agree that we have specifically made You aware:

(c) of the need to boil the Non-potable Water prior to consuming it, or not to consume the Non-potable Water at all (as applicable); and

(d) that You should seek and adhere to any advice issued by the Department of Health and Human Services and/or the Director of Public Health with respect to your use of the Non-potable Water; and

(e) that You accept all risks associated with your use of the Non-potable Water.

4.5 Water flow rate

We will supply Water to your property at the Minimum Flow Rate at the Meter, or if there is no Meter the tap nearest the Connection Point, except:

(a) in the case of an Unplanned Interruption under clause 10.1 (Unplanned Interruptions) or a Planned Interruption under clause 10.2 (Planned Interruptions); or

(b) where a declaration has been issued under clause 10.3 (Minister's declaration) or where we have determined that the circumstances in clause 10.4 (Water shortages) apply; or

(c) where we are entitled to restrict or Disconnect supply under clause 11 (Disconnection or restriction of Services); or

(d) where Your Infrastructure does not comply with the required conditions; or

(e) where the Act or the *Water Management Act 1999* (Tas) provides otherwise; or

(f) where You are a Limited Water Supply Customer.

4.6 Water pressure

We will use our reasonable endeavours to supply Water to your property at a Minimum Pressure at the Connection Point.

4.7 Testing

If You believe that we are not complying with our obligations under clause 8 (TasWater Warranties) or clause 4.5 (Water flow rate) You can make a request to us to undertake relevant testing.

If testing indicates that we are complying with our obligations, You may be required to pay the testing costs.

4.8 Rectification after testing

If testing carried out under clause 4.7 (Testing) indicates that we are not compliant with our

obligations, we will rectify any deficiency as soon as possible, or within a time we both may agree upon.

4.9 Special Needs Customers

You should notify us if You require Service for use of a dialysis machine or for other special health reasons or special needs. If You are eligible to be classified as a Special Needs Customer, we will make all reasonable attempts in accordance with the Code to provide Services that meet your reasonable health needs.

If You are a Special Needs Customer You will receive advance notification of any Planned Interruption to Services in accordance with clause 10.2 (Planned Interruptions). In addition, we will make reasonable endeavours to contact You as soon as possible in the event of any Unplanned Interruptions to Services.

4.10 Breaks in our Water Infrastructure

You should notify us if You become aware that your Water Service has been affected by a Break.

4.11 Our procedures for Breaks

If a Break occurs due to a failure or fault in our Water Infrastructure, we will make reasonable endeavours to:

(a) promptly attend the site once we have been notified; and

(b) take action to rectify the situation, taking into account actual or potential impact on You, others affected by the failure or fault, any affected property and the environment.

Where the Break results in an Unplanned Interruption to your Water Service, we will provide information about the Unplanned Interruption through a 24 hour telephone facility, including advising the estimated restoration time.

4.12 Responsibilities for rectifying Breaks

We will fix a Break in our Water Infrastructure at our cost, but if You contribute to the Break You may be liable to pay some of those costs.

You are responsible for arranging and paying for any blocks, leaks, bursts or spills in Your Water System to be fixed by a licensed plumber or drainer.

5 WHAT SEWERAGE SERVICES DO WE PROVIDE?

5.1 Connection to your property

If your property is connected to our Sewerage Infrastructure, we will remove the Sewage from your property at the Connection Point, except:

(a) in the case of an Unplanned Interruption under clause 10.1 (Unplanned Interruptions) or a Planned Interruption under clause 10.2 (Planned Interruptions); or

(b) where we restrict or Disconnect supply under clause 11 (Disconnection or restriction of Services); or

(c) in the case of events beyond our reasonable control which impact our ability to provide Sewerage Services to You.

5.2 New sewerage connections to your property

As long as your property has not been Disconnected by us, we will arrange and provide for a connection(s) to your property within 10 Business Days (or such later date as we both may agree), provided that your property meets the requirements for connection under our Connection Policy.

5.3 Supply of Sewerage Services

We will provide the Sewerage Services to the Connection Point at your property in accordance with the relevant warranties in clause 8 (TasWater Warranties).

5.4 Blockage of our Sewerage Infrastructure

You should notify us if You are aware that your Sewerage Service has been impacted by a Blockage.

5.5 Our procedures for faults in our Sewerage Infrastructure

If a Blockage occurs due to a failure or fault in our Sewerage Infrastructure, we will make reasonable endeavours to ensure that we:

(a) promptly attend the site upon being notified; and

(b) take action to rectify the situation taking into account potential or actual impact on You, and others affected by the failure or fault, any affected property and the environment; and

(c) minimise the inconvenience and damage to You and others affected; and

(d) clean up and disinfect the affected area as soon as possible in such a manner to minimise the risk to human health.

Where the Blockage results in an Unplanned Interruption to your Sewerage Service, we will provide information about the Unplanned Interruption through a 24 hour telephone facility, including advising callers of the estimated restoration time.

5.6 Responsibilities for cleaning Blockages

(a) We will fix a Blockage at our cost, but if You contribute to the Blockage You may also be

liable to contribute to those costs.

(b) You are responsible for arranging for any block, leak, burst or spill in Your Sewer System to be fixed by a licensed plumber or drainer.

6 TRADE WASTE

You may only discharge Trade Waste into our Sewerage Infrastructure if You are a Category 1 Trade Waste customer or a Category 2 Trade Waste customer.

If You are a Category 1 Trade Waste customer or a Category 2 Trade Waste customer this Contract and the Consent apply to your discharge of Trade Waste to our Sewerage Infrastructure.

If the Consent deals with a matter that is not contained in this Contract then the Consent applies in relation to that matter.

The minimum acceptable means of Trade Waste pre-treatment for a Category 1 Trade Waste customer or a Category 2 Trade Waste customer is specified in our Commercial Trade Waste Customer Pre-treatment Guideline (available on our website at www.taswater.com.au).

In addition to the rights we have under this Contract, if You do not comply with the requirements of this Contract or the Consent, we may apply Trade Waste non-compliance charges contained in our Price and Service Plan depending on the level of risk that the non-compliant activity presents to us.

The Trade Waste Customer listing on our website (www.taswater.com.au) provides an indicative list that existing and potential Trade Waste Customers can use to self-identify their likely Trade Waste category.

7 SERVICES WE ARE NOT RESPONSIBLE FOR

We are not responsible for:

(a) the supply, installation, commissioning, maintenance or replacement of a Backflow Prevention Device installed at the outlet of a Meter where the Backflow Prevention Device is greater than 25 millimetres; or

(b) a private fire service; or

(c) private extension, trunk services or property service pipes from private extensions; or

(d) Your Infrastructure or infrastructure belonging to any other person located beyond the Connection Point (excluding the Water Meter); or

(e) any illegal connections; or

(f) any services installed contrary to requirements under the Act; or

(g) the provision of facilities and parts for the repair of any goods supplied to You pursuant

to this Contract.

8 TASWATER WARRANTIES

We will provide Services:

(a) exercising due care and skill; and

(b) in a proper and workmanlike manner and to a standard expected of a member of the water and sewerage industry in Tasmania; and

(c) so that the Service complies with the applicable Health Regulations; and

(d) so that the Service complies with applicable Environmental Regulations.

9 WATER METER INSTALLATION, TESTING AND MAINTENANCE

9.1 Water Meter installation and maintenance

In addition to our rights in the Act, we will install, read, test and maintain a Water Meter at your property. In accordance with the Act, the installed Water Meter remains our property and we may charge You for the cost of repair or replacement of it, if You wilfully or negligently damage the Meter.

9.2 Access to the Water Meter

We may enter your property without notice for the purpose of reading, testing, inspecting, maintaining and replacing the Meter between the hours of 7am and 7pm on any day, unless we determine that an emergency exists.

9.3 Water Meter readings

Where your property has a Water Meter installed and owned by us, we will measure the quantity of Water supplied to You based on the Water Meter reading.

10 FACTORS AFFECTING SERVICE

10.1 Unplanned Interruptions

Your Services may be interrupted in the event of:

(a) an emergency; or

(b) a situation where we need to avert danger to any person or property.

If an Unplanned Interruption occurs, we will minimise the inconvenience to You and restore the Services as soon as practicable.

We will provide information about any Unplanned Interruption through a 24 hour telephone

facility, including advising callers of the estimated restoration time.

10.2 Planned Interruptions

If there is a Planned Interruption to Services, we will minimise the inconvenience to You and restore the Services as soon as practicable.

Where practicable, we will provide You with two Business Days' written notice of the Planned Interruption or publish a notice in a newspaper circulating generally in the area in which the Planned Interruption is to take place detailing:

(a) the extent, reason and time of the Planned Interruption; and

(b) the time at which, or circumstances, if any, when the Services will return to normal.

If You are registered with us as a Special Needs Customer then we will contact You at least four Business Days before a Planned Interruption, unless You request a longer period of notice and it is reasonable and practical for us to accommodate your request.

10.3 Minister's declaration

In accordance with the Minister's approval under the *Water Management Act 1999* (Tas), we may interrupt, limit or place restrictions on the supply of our Water Service to You if the Minister declares a Water supply emergency. You must comply with our supply conditions during this time.

10.4 Water shortages

We may reduce or restrict the supply of our Water Services to You, if:

(a) there is a shortage of Water which impacts on our ability to supply the quantity of Water which we would otherwise supply to You; or

(b) for any other unavoidable cause, we are unable to supply the quantity of Water which we would otherwise supply to You; or

(c) we believe that the reduction or restriction is necessary to avoid future Water shortages.

We will provide You written notice of the proposed reduction or restriction to the supply of our Water Services to You or publish a notice in a newspaper circulating generally in the area in which the proposed reduction or restriction is to take place detailing:

(d) the extent, reason and time of the proposed reduction or restriction; and

(e) the time at which, or circumstances, if any, when the Service will return to normal.

If You are registered with us as a Special Needs Customer then we will contact You at least four Business Days before the proposed reduction or restriction of the supply of our Water Services to You, unless You have requested a longer period of notice and it is reasonable and practical

for us to accommodate your request.

We will make all reasonable attempts so that, so far as is reasonably practical:

(f) if You are a Special Needs Customer, You will continue to have Services provided despite the reduction or restriction; and

(g) any inconvenience to You is minimised; and

(h) if You are a Special Needs Customer, the provision of Services to You and/or the resumption of your Services following the interruption, takes priority, if necessary, over the needs of other Customers.

11 DISCONNECTION OR RESTRICTION OF SERVICES

11.1 Disconnection or restriction of Water supply for non-payment for non-residential premises

(a) If your property is a non-residential premise and You:

(i) fail to pay your Account by the due date; and

(ii) have failed to make alternate arrangements for payment;

we may Disconnect or restrict the supply of Water to your property in accordance with clause 11.2 (Notice of Disconnection or restriction of supply of Water for non-residential premises) and clause 11.7 (Restoration of supply after restriction or Disconnection).

(b) We will not take action to restrict the supply of Water to your property before we give You notice under clause 11.2 (Notice of Disconnection or restriction of supply of Water for non-residential premises).

11.2 Notice of Disconnection or restriction of supply of Water for non-residential premises

(a) If your property is a non-residential premise and You fail to pay your Account by the due date, we will, within seven days after that due date, send You a reminder notice. This reminder notice will be sent to You in the same manner in which Accounts are sent to You under clause 12.3 (How Accounts are sent).

(b) If You fail to pay the amount specified in the reminder notice by the due date specified in that reminder notice, we may issue You a notice of Disconnection or restriction detailing:

(i) the extent and reason of the proposed restriction or Disconnection; and

(ii) the time at which the restriction or Disconnection is to occur; and

(iii) the time at which, or the circumstances, if any, in which the Service will cease to be restricted or Disconnected.

11.3 Notice of restriction of supply of Water for residential premises

(a) We may restrict the supply of Water Services to your property if it is residential premises and You have not paid a debt due in respect of the supply of the Water Service to your property. If You fail to pay your Account by the due date, within seven days after that required due date we will send You a reminder notice in accordance with the Code. This reminder notice will be sent to You in the same manner in which Accounts are sent to You under clause 12.3 (How Accounts are sent).

(b) If You fail to pay the amount specified in the reminder notice by the due date in that reminder notice, and we subsequently decide to restrict the supply of the Water Service to your property, we will issue You a notice of restriction detailing:

(i) the extent and reason of the proposed restriction; and

(ii) the time at which the restriction is to occur; and

(iii) the time at which, or the circumstances, if any, in which the Water Service will cease to be restricted.

11.4 Minimum Flow Rate during restriction

If we restrict the supply of Water to You, we will provide a supply of Water no less than two litres per minute at the tap nearest the Meter or, if no Meter is installed, at the tap nearest the Connection Point.

You should contact us if You believe the restriction will cause a health hazard.

11.5 Disconnections or restrictions of Services for other reasons

We may also Disconnect the supply of your Sewerage Service if:

(a) a Planned Interruption in relation to the property is required; or

(b) You have requested or agreed to the Disconnection or restriction; or

(c) we suspect on reasonable grounds that You have committed an offence relating to safety in respect of our Infrastructure; or

(d) we suspect on reasonable grounds that You have committed an offence relating to illegal use of our Infrastructure; or

(e) we suspect on reasonable grounds that You have taken or diverted, or are taking or diverting, Water or Sewage from our Infrastructure without our authority; or

(f) we are satisfied on reasonable grounds that You have engaged in conduct that has interfered with the supply of Services to other Customers or have jeopardised the safety of our Infrastructure.

We may only Disconnect the supply of a Water Service to your premises if one or more of clauses 11.5(a) to (f) are have been satisfied or:

(g) You a Customer of ours in respect of premises that are not residential premises; and

(h) You have not paid a debt that is due in respect of the supply of the Water Service to the premises.

We may only restrict the supply of Your Water Service in respect of premises that are residential premises if one or more of clauses 11.5(a) to (f) are have been satisfied or You have not paid a debt due in respect of the supply of a Water Service to the premises.

11.6 Limitations on Disconnections or restriction

Except for an Unplanned Interruption, we will not take steps to restrict or Disconnect Services to your property:

(a) without giving You notice under clauses 11.2 (Notice of Disconnection or restriction of supply of Water for non-residential premises) and clause 11.3 (Notice of restriction of supply of Water for residential premises); or

(b) if You registered with us as a Special Needs Customer in accordance with clause 4.8 (Special Needs Customers); or

(c) if You are experiencing financial hardship and have entered into payment assistance arrangements with us and You are complying with those arrangements; or

(d) on a Friday, public holiday, weekend, day before a public holiday, or after 3.00pm; or

(e) if we believe that the restriction or Disconnection will cause a hazard having taken into consideration the consequences of the restriction or Disconnection to health, safety, the environment and any of your concerns; or

(f) if it is a day of total fire ban declared by the Tasmanian Fire Service in the area where your property is located.

11.7 Restoration of supply after restriction or Disconnection

When the reasons for the Disconnection or restriction no longer exist we will restore the Services to You as soon as practicable.

12 YOUR ACCOUNT

12.1 When will your Account be sent?

Subject to clause 13.4 (Undercharging) and clause 13.5 (Overcharging), an Account we issue You for the Services we provide to You:

(a) must be issued within 30 days of the conclusion of the Billing Period to which the Charges in the Account relate; but

(b) may be issued at any time during a Billing Period to which the Charges in the Account relate.

Your Account may include:

(c) a Variable Water Charge;

(d) a Fixed Sewerage Charge;

(e) a Fixed Water Charge;

(f) Trade Waste Charges;

(g) any other Charges set out in our Price and Service Plan;

(h) a Service Charge.

Some of our Charges may be imposed in advance.

Some of our Charges are subject to GST.

12.2 What information is on your Account?

Your Account will state:

(a) the date the Account was issued;

(b) your name, billing address and Account Number;

(c) the address of your property and the Billing Period to which the Charges in the Account relate;

(d) if a Water Meter is installed at your property, the details of any Water Meter reading (whether it is a Special Meter Reading or not) to which the Account relates, including the Meter registration number and the date the Water Meter was read, or if the reading is an estimation, a clear statement that the reading is an estimation;

(e) if a Water Meter is installed at your property, the average daily rate of Water use at the property to which the Account relates;

(f) if your property is a residential premises, a graphical illustration of your current Water usage. If the data is available, the graphical illustration will include your usage for each Billing Period over the past 12 months and a comparison of your usage for the same period in the previous year;

(g) the total amount of money You are required to pay, with each Charge payable under this Contract separately itemised on the Account;

(h) the date by which You are required to pay the Account;

(i) the options for payment that are available to You;

(j) the services and options that we are able to offer You if You are experiencing financial difficulties;

(k) details of our Enquiry facility, including a 24 hour Service difficulties and faults telephone service number;

(l) interpreter services we offer;

(m) any outstanding credit or debit from previous Accounts;

(n) any payments made by You to us since the previous Account was issued;

(o) any available concessions and discounts and any concession or discount You are entitled to;

(p) any adjustments that have been made to the amount otherwise owed in respect of the Account, including refunds, underpayments, concessions and discounts;

(q) information about any interest that may be charged on any outstanding amount on your Account, including the applicable rate of interest and the date from which interest may be applied; and

(r) the amount You are required to pay for the previous Billing Period in respect of the property.

12.3 How Accounts are sent

You may nominate a postal address or, alternatively, an email address to which your Account should be sent.

If You have provided us will an email address, You agree that we will send your Account to that address unless You request otherwise.

If You have not provided us with an email address, we will send your Account to the postal address of the property to which the Charges relate, or your last known postal address.

Your Account will be considered delivered to You if it is sent by one of those means outlined above.

12.4 How payments can be made

You may pay your Account by any of the following methods:

(a) direct debit;

(b) electronic means;

(c) mail;

(d) in person at a network of agencies or payment outlets;

(e) through a facility provided by a provider of income support (if any).

You may also choose to pay your Account in advance, including periodic payments in advance, using any of the above payment methods.

13 WHAT YOU PAY

13.1 Responsibility to pay the Account

You must pay us the amount of your Account by the due date specified, unless the amount is in dispute and has not been resolved in accordance with our Complaints, Enquiries and Disputes Management Policy, available on our website at www.taswater.com.au.

13.2 Concessions

(a) You may be entitled to a concession pursuant to the *Water and Sewerage Industry (Community Service Obligation) Act 2009* (Tas). You must apply to us for the concession and establish your eligibility.

(b) If You are eligible, we will ensure that the concession is granted from the date on which your application for concession was lodged and You must pay your Account less the concession.

(c) To obtain information on whether You are eligible see our website (www.taswater.com.au) or contact us.

13.3 Overdue Account balances

We may charge You interest at the Reference Rate on overdue Account balances.

The interest will accrue on a daily basis and will be calculated by applying the Daily Rate to the amount outstanding commencing on the day after the due date of your Account until the overdue amount is paid in full (with both days inclusive).

If not paid by You, interest will capitalise every 90 days. Unless payment is accepted by us on other terms, any part payment by You of an outstanding amount will go to reduce the amount of interest first.

13.4 Undercharging

If You have been undercharged as a result of our error, we may adjust your next Account to recover the undercharged amount if:

(a) except in the case of Fraud, the amount to be recovered is limited to the amount

undercharged in the 12 months prior to us first becoming aware that You had been undercharged; and

(b) the amount to be recovered is listed as a separate item on your next Account issued after we become aware of the undercharge, or on an Account specific to the undercharged amount and issued to You other than as part of a regular sequence of Accounts; and

(c) except in the case of Fraud, an explanation is provided by us on your Account referred to in clause 13.4(b) as to how the undercharging occurred and how the amount owing has been calculated; and

(d) except in the case of Fraud, we allow, where the total period in which You were undercharged was a period of 30 days or less, for You to pay the amount to be recovered over a 30 day period, which ends not less than 30 days after the day on which the Account, referred to in clause 13.4(b), is sent to You; and

(e) except in the case of Fraud, we allow, where the total period in which You were undercharged was a period of more than 30 days, You to pay the amount to be recovered over a time period at least equal to that period in which undercharging occurred, up to a maximum of 12 months and beginning on the day on which the Account, referred to in clause 13.4(b), is sent to You; and

(f) we allow You to pay the amount to be recovered through our flexible payment plan in accordance with clause 15.2 (Flexible payment plans).

13.5 Overcharging

If You have been overcharged due to our error, or inaccurate metering by us, we will:

(a) inform You within 10 Business Days of becoming aware that You have been overcharged; and

(b) refund You the amount overcharged, together with any interest payable, in accordance with any reasonable instructions which You provide to us.

Where we receive no reasonable instructions for refund from You, then we will credit the amount overcharged, together with any interest payable, to your next Account.

The applicable interest rate we will pay on a refund on an overcharged amount is the Reference Rate.

The interest will accrue on a daily basis and will be calculated by us by applying the Daily Rate to the amount You have been overcharged. If not paid to You, interest will capitalise every 90 days.

Where interest is paid by us on a refund to You of an overcharged amount, interest will accrue

from the date we received payment of the amount overcharged to the date we refund to You that amount or the date we credit the amount overcharged to your Account in full.

14 THE AMOUNT THAT WE CHARGE YOU

14.1 How are prices determined?

The Regulator has approved, in its Price Determination, our Charges as set out in our Price and Service Plan.

14.2 How are our Charges varied?

Our Charges may vary for each financial year as set out in our Price and Service Plan.

14.3 Other fees and Charges

(a) We may only charge You up to the maximum amount for a number of miscellaneous fees as set out in our Price and Service Plan.

(b) We may also charge You other fees, Charges and amounts where we are entitled to do so under the Act or in the event any tax, levy or duty is imposed or passed onto us by any Government, including without limitation GST, carbon tax, or an environmental tax or any similar tax, levy or duty.

14.4 Dishonoured or declined payments

If payment of your Account is dishonoured or declined, we may recover from You an amount charged by our financial institution. We may include this amount in the next Account issued to You, or where we are not going to send You another Account, in an Account sent to You otherwise than as part of a regular sequence of Accounts.

15 WHAT CAN YOU DO IF YOU ARE UNABLE TO PAY YOUR ACCOUNT

15.1 Are You experiencing financial hardship?

If You are experiencing financial hardship You should contact us and we will provide You with information about the options available to assist You under our Financial Hardship Policy.

15.2 Flexible payment plans

(a) Subject to clause 15.3 (Eligibility for flexible payment plans), we will offer You a flexible payment plan having regard to your capacity to pay and the pattern of your consumption of Services.

(b) A flexible payment plan will:

(i) include how the total amount to be paid has been calculated; and

(ii) confirm the period over which You will pay the agreed amounts; and

(iii) specify the amount to be paid in each instalment; and

(iv) be able to be renegotiated at your request if there is a demonstrable change in your financial circumstances; and

(v) enable You and us, by agreement, to adjust the instalments required to be paid to account for the liability arising from your consumption of Water Services or Sewerage Services after the flexible payment plan has been entered into, if instalments are over a period of more than three months; and

(vi) be confirmed in writing to You prior to, or as soon as practicable after, the flexible payment plan commences.

15.3 Eligibility for flexible payment plans

We are not required to offer to enter into a flexible payment plan with You if:

(a) within the previous 12 month period You have entered into more than two flexible payment plans with us and failed, without reasonable excuse, to comply with the terms and conditions of the flexible payment plans; or

(b) You have entered into more than three flexible payment plans with us and failed, without reasonable excuse, to comply with the terms and conditions of the flexible payment plans.

15.4 Term of your flexible payment plan

Your flexible payment plan commences when You make your first payment to us and continues to be in force until payments under the flexible payment plan are completed.

16 YOUR RESPONSIBILITIES

16.1 Your Water System

You as property Owner are responsible for maintaining all of the pipes and fittings between our Water Infrastructure and the building and/or taps on the property (which together comprise Your Water System) and any damage caused by the failure of Your Water System. If your property has a connection to our Water Infrastructure that is 25 millimetres or greater, You must supply, install, commission, maintain and, if required, repair and/or replace a Backflow Prevention Device that is approved by us on Your Water System. For the avoidance of doubt the Backflow Prevention Device will be owned by You.

16.2 Your Sewer System

You as property Owner are responsible for maintaining all sewer pipes and fittings within the property up to the Connection Point (which together comprise Your Sewer System).

16.3 Altering and unauthorised connection or use

You must not wrongfully:

(a) take, use or divert any Water supplied by us; or

(b) interfere with the operation of a Meter or prevent it from registering the quantity of Water supplied by us; or

(c) discharge any substance into a System owned by us.

You must obtain our consent before carrying out any activity that may cause destruction of, damage to, or interference with our System.

16.4 Leaving, selling, or leasing your property

You must notify us at least five days before You vacate, sell or lease your property to another person.

17 LIABILITY

17.1 Conditions and warranties of the Contract

Except as otherwise provided in this Contract or prohibited by law, all other terms, conditions, or warranties implied by law (except those statutory guarantees implied pursuant to the Australian Consumer Law), custom, or usage are excluded.

Despite any other provision of this Contract, nothing in this Contract is to be read as excluding, restricting or modifying the application of the Australian Consumer Law which cannot be excluded, restricted or modified.

Notwithstanding any other provision of this Contract, our liability, if any, for anything arising out of or in connection with the provision of any Service under this Contract (including a breach of a guarantee or warranty implied by the Australian Consumer Law in relation to the supply of any Service, not of a kind ordinarily acquired for personal, domestic or household use or consumption) is limited, at our option, to:

(a) the supplying of the Service again; or

(b) the payment of the cost of having the Service supplied again.

Notwithstanding any other provision of this Contract, our liability, if any, for anything arising out of or in connection with the supply of goods under this Contract (including a breach of a

guarantee or warranty implied by any law (including any Legislative Requirements), except for any guarantee or warranty implied by sections 51, 52 or 53 of the Australian Consumer Law, in relation to the supply of any goods, not ordinarily acquired for personal, domestic or household use or consumption) is limited, at our option, to the:

(c) replacement of the goods or the supply of equivalent goods;

(d) repair of the goods, however we cannot provide facilities and parts for the repair of any goods supplied to You by us pursuant to this Contract;

(e) payment of the cost of replacing the goods or of acquiring equivalent goods; or

(f) payment of the cost of having the goods repaired.

18 WHEN DOES MY CONTRACT TERMINATE?

18.1 Termination of this Contract

This Contract will terminate if You cease to be covered as described in clause 2.2 (Who is covered by this Contract?) for any reason.

The termination of this Contract does not affect any of your or our rights or obligations that accrue prior to termination.

19 WHAT CAN YOU DO IF YOU ARE NOT HAPPY WITH OUR SERVICES?

19.1 Complaints

If You are not satisfied with the solution offered or action taken by us, which includes if You believe the Water Meter is not accurate, You may make a complaint in accordance with our Complaints, Enquiries and Disputes Management Policy, which is available on our website at www.taswater.com.au.

20 PRIVACY

We will treat your personal information in accordance with our obligations under the *Personal Information Protection Act 2004* (Tas) and the *Privacy Act 1988* (Cth).

SCHEDULE 1 – DEFINITIONS

Account means an account as defined in the *Water and Sewerage Industry (Customer Service Standards) Regulations 2009* (Tas).

Account Number means the number assigned to record your use of a Service provided by us and debits and credits in respect of the property.

Act means the *Water and Sewerage Industry Act 2008* (Tas).

Australian Consumer Law means the law as set out in Schedule 2 of the *Competition and Consumer Act 2011* (Cth).

Australian Drinking Water Guidelines means the current version of the Australian Drinking Water Guidelines published by the National Health and Medical Research Council.

Backflow Prevention Device means protection against the reverse flow of liquid within a piped plumbing system which could cause contaminants being drawn into our Water Infrastructure.

Billing Period has that same meaning as in the *Water and Sewerage Industry (Customer Service Standards) Regulations 2009* (Tas).

Blockage means a block, leak, burst or spill in our Sewerage Infrastructure.

Break means a block, leak, burst or spill in our Water Infrastructure.

Business Day means a day that is not a Saturday or a Sunday or a public holiday or a statutory holiday as defined in the *Statutory Holidays Act 2000* (Tas) in Hobart.

Category 1 Trade Waste customer means a Customer discharging low volume and low impact Trade Waste which is minimal risk to the Sewerage Infrastructure and can be managed through cleaner production methods and/or the installation of pre-treatment devices approved by us.

Category 2 Trade Waste customer means a Customer discharging low to medium volume and low impact Trade Waste which requires installation of a pre-treatment system approved by us at the source to make it acceptable for discharge to the Sewerage Infrastructure, and includes those Customers in subcategories 2A, 2B and 2C as set out in our Price and Service Plan.

Charge includes the charges set out in clause 12.1 (When will your Account be sent?), a one-off fee or charge, a Volumetric Charge, a fee that is payable periodically, a scale of fees or charges and an amount of money determined using a method of calculation or by application of a policy.

Code means a code issued under section 57 of the Act.

Connection Point means the point at which your pipes connect with the Water Infrastructure or Sewerage Infrastructure or such other point as may be prescribed in the Regulations made and in force under the Act.

Connection Policy means the policy developed by us pursuant to section 56U of the Act which forms part of our Price and Service Plan.

Consent means the specific terms and conditions that must be complied with in order for us to accept discharge of Trade Waste to our Sewerage Infrastructure from Category 1 Trade Waste customers or Category 2 Trade Waste customers specified in Schedule 2, in addition to any general terms and conditions of this Contract that are not inconsistent with those terms and conditions.

Contract means this document and includes any schedules, appendices and annexures to this Contract.

Customer means a person referred to in clause 2.2 (Who is covered by this Contract?).

Daily Rate means the Reference Rate plus 6% divided by 365.

Disconnect means to physically prevent the flow of Water or Sewage.

Enquiry means a written or verbal approach You make which can be satisfied by us providing written or verbal information, advice, assistance, clarification, explanation or referral about a matter.

Environmental Regulations means requirements under the *Environmental Management and Pollution Control Act 1994* (Tas) and associated legislation.

Financial Hardship Policy means a financial hardship policy required under the *Water and Sewerage Industry (Customer Service Standards) Regulations 2009* (Tas).

Fixed Sewerage Charge means a recurrent charge for the provision of a regulated Sewerage Service to a Customer but not including a Variable Charge or a Trade Waste Charge.

Fixed Water Charge means a recurrent charge for the provision of a regulated Water Service to a Customer but not including a Variable Charge.

Fraud means dishonest activity causing actual or potential financial loss to us including but not limited to theft of money or property. Fraud usually involves deception including the deliberate falsification, concealment, destruction or use of falsified documentation or the improper use of information or position. The theft of property belonging to us but where deception is not used is also considered fraud. The concept of fraud can involve fraudulent or corrupt conduct by internal or external parties targeting us or fraudulent or corrupt conduct by us itself targeting external parties.

GST means goods and services tax within the meaning of the *A New Tax System (Goods and Services Tax) Act 1999* (Cth).

Health Regulations means the regulation of health, public safety and monitoring with respect to the supply of drinking Water by the Director of Public Health, the *Public Health Act 1997* (Tas), the *Fluoridation Act 1968* (Tas) and associated subordinate legislation.

Infrastructure means Water Infrastructure or Sewerage Infrastructure.

Limited Water Supply Customer means a Customer that:

(a) is connected to a Water main that periodically does not contain Water under positive pressure; or

(b) has a connection designed to provide low or intermittent flow, such as where the Customer has been required to install, operate and maintain an individual tank or pump; or

(c) is connected to a non-reticulation Water main that is subject to significant pressure variations due to either:

(i) a pumped supply where the low pressure is below 50kPa and the high pressure is above 500kPa; or

(ii) an inlet supply to a trunk reservoir such that when the reservoir inlet valve is open the pressure is below 50kPa; or

(iii) receiving a supply of Water that we determine to be inadequate.

Limited Water Quality Customer means a Customer receiving Water from a supply which has a permanent boil Water alert in place or a Customer receiving Non-potable Water from a supply that we have declared to be non-potable.

Meter has the same meaning as defined in the Act.

Minimum Flow Rate means the Water flow rate as detailed in our Price and Services Plan.

Minimum Pressure means the minimum pressure as detailed in our Price and Service Plan.

Minister means the Minister for Primary Industries and Water.

Non-potable Water means Water that, on the basis of both health and aesthetic considerations, does not comply with the health guideline values contained in the Australian Drinking Water Guidelines and is therefore not suitable for drinking or culinary purposes.

Occupier has the same meaning as defined in the Act.

Owner means the registered proprietor of any land that is connected to Infrastructure or that a Service is available to from Us.

Planned Interruption, in relation to a property, has the same meaning as defined in the *Water and Sewerage (Customer Service Standards) Regulations 2009* (Tas).

Price and Service Plan means our price and service plan approved by the Regulator under section 65 of the Act.

Price Determination means the Regulator's Price Determination for the period 1 July 2018 to 30 June 2021 published on 30 April 2018.

Reference Rate refers to the to the monthly 90-day bank accepted bill rate published by the Reserve Bank of Australia. The rate to apply in each quarter is the rate for the second month preceding the start of each new quarter. The reference rate will apply from the first Business Day of each new quarter up to and including the last business day of that quarter. The reference rate for the next quarter must be published on our website two weeks before the start of that quarter.

Regulation means any regulation pursuant to statute and includes the *Water and Sewerage Industry (General) Regulations 2009* (Tas).

Regulator means the Tasmanian Economic Regulator within the meaning of the *Economic Regulator Act 2009* (Tas).

Security Deposit means an amount not greater than 37.5 per cent of your annual bill, based on your previous billing history or the average use of a comparable Customer over a comparable period.

Service means the provision of a Water Service or a Sewerage Service by us.

Service Charge means a charge levied on a Customer under section 68A of the Act in relation to a property which may be connected or unconnected to either Water Infrastructure or Sewerage Infrastructure.

Sewage means the waste matter which passes through sewers and includes Trade Waste.

Sewerage Infrastructure has the same meaning as defined in the Act.

Sewerage Service has the same meaning as defined in the Act.

Special Needs Customer means a Special Needs Customer as determined by us or the Regulator as having special needs in accordance with clause 4.9 (Special Needs Customers) of this Contract.

System means our Water Infrastructure or Sewerage Infrastructure.

Trade Waste has the same meaning as defined in the Act.

Trade Waste Charge means a recurrent charge for the acceptance of Trade Waste from a Customer but does not include a Fixed Sewerage Charge.

Unplanned Interruption has the same meaning as defined in the *Water and Sewerage (Customer Service Standards) Regulations 2009* (Tas).

Variable Charge means a charge, for a regulated Service, that varies according to the volume of the Water delivered to, or Sewage removed from, the property to which the charge relates.

Water has the same meaning as defined in the Act.

Water Infrastructure has the same meaning as defined in the Act.

Water Service has the same meaning as defined in the Act.

We, our or us means TasWater its officers, employees, agents and contractors.

Your Infrastructure means Your Sewer System and Your Water System.

Your Sewer System is defined in clause 16.2 (Your Sewer System).

Your Water System is defined in clause 16.1 (Your Water System).

You means a person who is a Customer.

INTERPRETATION

In this Contract, the following rules of interpretation apply:

(a) A reference to:

(iv) one gender includes the others;

(v) the singular includes the plural and the plural includes the singular;

(vi) a person includes a body corporate;

(vii) a party includes the party's executors, administrators, successors and permitted assigns;

(viii) a statute, regulation or provision of a statute or regulation (**Statutory Provision**) includes:

(ix) that Statutory Provision as amended or re-enacted from time to time;

(x) a statute, regulation or provision enacted in replacement of that Statutory Provision; and

(xi) another regulation or other statutory instrument made or issued under that Statutory Provision; and

(xii) money is to Australian dollars, unless otherwise stated.

(d) "Including" and similar expressions are not words of limitation.

(e) A reference to a clause or schedule is a reference to a clause of or a schedule to this Contract.

(f) A reference to a Contract or document (including, without limitation, a reference to this Contract) is to this Contract or document as amended, novated or replaced.

(g) Where a word or expression is given a particular meaning, other parts of speech and grammatical forms of that word or expression have a corresponding meaning.

(h) Headings and any table of contents or index are for convenience only and do not form part of this Contract or affect its interpretation.

(i) A provision of this Contract must not be construed to the disadvantage of a party merely because that party was responsible for the preparation of this Contract or the inclusion of the provision in this Contract.

(j) If an act must be done on a specified day which is not a Business Day, it must be done instead on the next Business Day.

(k) If there is any inconsistency between this Contract and any law, the law will prevail to the extent of the inconsistency.

SCHEDULE 2 - CONSENT

Conditions

1. Non-Acceptance of Trade Waste

You must not discharge any substances that do not comply with the Regulation, the Act, any other law, this Consent because conditions of this Consent have not been met or otherwise; or that are:

(a) flammable and/or explosive substances;
(b) radioactive substances (other than in accordance with the Radiation Protection Act 2005);
(c) infectious wastes such as medical, clinical, veterinary or other
(d) pathological wastes that may pose a threat to human health;
(e) genetically engineered organisms;
(f) persistent and/or toxic substances;

2. Pre-treatment

(a) Where You are a Category 2 Trade Waste Customer You must have installed Pre-treatment Equipment to pre-treat and manage the Trade Waste from your property before it's discharged to our Sewerage Infrastructure.
(b) This Pre-treatment equipment:
  (i) can be existing, where it is accepted by us; or
  (ii) can be new Pre-treatment Equipment as accepted by us, including requirements regarding the dates for installation and operation;
  (iii) must be designed, installed and operated as per legislative requirements and manufacturers specifications;
  (iv) design and specification documentation must be provided to our satisfaction if requested by us; and
  (v) must be modified, replaced or repaired as directed by us if it is apparent to us it is inadequate, outdated, faulty or requires replacement.

3. Maintenance

(a) All Pre-treatment Equipment, together with any other plant or Infrastructure associated with the Trade Waste, must be maintained in good and efficient working order to our satisfaction.
(b) Where specific Maintenance requirements for Pre-treatment Equipment are required by us, those requirements must be complied with.
(c) Trade Waste residues removed from any part of the Property must be disposed of in accordance with the law and to our satisfaction.
(d) Records of Maintenance and cleaning of Pre-treatment Equipment, including the dates and methods of disposal of Trade Waste residue, must be made on a continuous basis, kept for a period of not less than 3 years after they are made and provided (upon request) to us.

4. Monitoring

(a) You must conduct Monitoring at the relevant locations required by us, with any equipment and in accordance with any other requirements, we require.
(b) We may from time to time; direct You to undertake new, additional or modified Monitoring and You must comply with any such direction.
(c) You must maintain records of Monitoring in accordance with our direction.
(d) The results of the analysis must be submitted to us within one week of the results being received. All laboratory results and flow volumes, if required, are to be submitted as requested by us.

Schedule 2 - Consent

5. Inspection

You will allow a water and sewerage officer access to your property generally, and;

(a) any Pre-treatment Equipment and any works associated with the creation, treatment, conveyance and discharge of Trade Waste;

(b) any records, samples or other information relating to the maintenance or monitoring;

(c) to take further samples or carry out inspections as we think fit. Additionally a water and sewerage officer must be given all assistance that is reasonably requested and must not be impeded by any person at the property.

6. Directions of Corporation

You must comply with any written or verbal notice or direction from us in accordance with the rights and obligations under the Customer Contract. In this Consent, any reference to a notice or direction to be given by us or any power, right or discretion expressed in favour of us, will be effectively given or exercised by any officer, employee or agent of us and must be complied with by You.

7. Customer must Notify

You must give not less than 30 days' written notice to us of any of the following events:

(a) any change to the business conducted which may materially affect the Trade Waste discharge;

(b) any intended change to the method of Pre-treatment;

(c) any proposed transfer, sale or closure of the business or any proposal to cease possession of any part of the Premises;

8. Significant events

You must notify us as soon as practicable by telephone and then in writing within 48 hours, of the happening of any of the following events:

(a) any major breach of this Consent;

(b) any event which has already, or is likely to, cause material or detrimental impact to human health, the environment generally, property, or the Sewerage Infrastructure; and

(c) that written notice must include details of the cause of the event, remedial actions that have or will be taken, together with actions proposed to ensure that the risk of the event occurring again is addressed, all to our satisfaction.

9. Powers and Obligations

(a) Where obligations are imposed on You, You must ensure that any officer, employee, agent or any other party associated with You, complies with such obligations and any failure to comply by such other party will constitute a breach of this Consent by You.

(b) This Consent will not operate to limit or fetter in any way, any power, right or discretion we have arising under the Act, Regulation or any other law.

10. Definition/Terminology

"Act" means the Act as defined in the Contract.

"Consent" means Consent as defined in the Contract.

"Maintenance" means any maintenance to be undertaken by You pursuant to the Consent.

"Monitoring" means any Monitoring to be undertaken by You pursuant to the Consent.

"New Pre-treatment Equipment" means any new Pre-Treatment Equipment specified by us to be installed by You.

"Pre-treatment" means any actions or works to be undertaken by You in respect of treating or managing of Trade Waste prior to its discharge.

"Regulation" means Regulation as defined in the Contract

Particulars of Consent

Section 1	Consent Details		
TasWater Ref:	*Trade Waste Number*	**Install No.**	*Gentrack Installation No.*
Type of Business:	*Café/Restaurant*	**Trade Waste Code**	*eg MP01*
Customer Category:	*2A*		
Issue Date:	*1 July 2015*		

Section 2	Property Details (Property from which Trade Waste is discharged to sewer)			
Property Address:				
	Suburb		**Post Code**	

Section 3	Trade Waste Customer (Property Owner)			
Name(s):				
Property Address:				
	Suburb		**Post Code**	
Contact Numbers:	(H)	(B)	(M)	
Email:				

Section 4	Trade Waste Business Details			
Business Name(s):				
Postal Address:				
	Suburb		**Post Code**	
Contact Numbers:	(H)	(B)	(M)	
Email:				

Section 5	Consent to Discharge	
	This Consent authorises the Customer to discharge Trade Waste into the Sewerage Infrastructure of the corporation strictly in accordance with: • The conditions of this Consent • All details and requirement set out in Schedule 1.	
	Authorised Delegate for and on behalf of the corporation	
	Signature:	
	Name:	
	Title:	

Part 1	Trade Waste Charges			
Trade Waste Tariff:	Trade Waste Category	Financial Year		
		2015/16	2016/17	2017/18
	1			
	2A			
	2B			
	2C			

Part 2	Existing Pre-Treatment					
	Device	*Fox First Flush Stormwater Diversion System*	Capacity	*N/A*	Identifier	
	Device	*Holding Tank (underground)*	Capacity	*3000L*	Identifier	
	Device	*Clearmake Oil Water Separator*	Capacity	*1000L/Hr*	Identifier	*12180*
	Notes	**Diversion system treats 250m² unroofed areas of site used for storing vehicles*				

Part 3	New Pre-Treatment Requirements			
	The Owner must install a pre-treatment devices as specified in this table. Within the timeframe (date of Commissioning) specified by TasWater.			
	Device		Capacity	
	Device		Capacity	
	Device		Capacity	
	Deadline for installation and Commissioning of new Pre-treatment System			

Part 4	Maintenance Requirements		
	Pre-Treatment Equipment must be maintained in good working condition according to manufacturer's specification and be cleaned/serviced at no less than the intervals specified below. Material removed from devices during cleaning must be disposed of legally.		
	Device	*First Flush Stormwater Diversion System*	Frequency	*52 weeks*
	Device	*Holding Tank (underground)*	Frequency	*26 weeks*
	Device	*Clearmake Oil Water Separator*	Frequency	
	Documentation of waste removal and cleaning of Pre-Treatment Equipment must be kept in accordance with the conditions of Consent.			
	Special Conditions			

Trade Waste Policy

Aim

This policy outlines our commitment to the efficient and effective management of liquid trade waste.

It also outlines our trade waste charges policy.

Policy

We provide industrial and commercial trade waste services across Tasmania, including collection, conveyance, storage and treatment. We manage the associated risks to people, the environment and our assets.

In providing these services, we are committed to the effective and efficient management of trade waste discharge to sewer so as to prevent harm to people, the environment and our sewerage infrastructure.

To achieve this, we will:

- Apply a responsive risk-based approach to the management of trade waste
- Have systems, procedures and agreements that:
    - Protect the health and safety of the community and our employees
    - Protect the environment
    - Outline how we will manage the risks associated with accepting trade waste
    - Support the efficient and effective operation of our sewerage infrastructure
- Have appropriate, clear agreements with trade waste customers that detail their obligations when using our trade waste services
- Fully recover the costs of providing trade waste services on an equitable basis, including the cost of conveyance, treatment, storage, disposal, maintenance and repair of damage to the sewerage infrastructure
- Provide customers with policy certainty so as to encourage trade waste minimisation through sustainable, clean and innovative trade waste management practices.

Trade Waste Consent

A person must obtain our consent (under section 56ZI of the Act) before discharging anything to our sewerage infrastructure. It is unlawful to discharge trade waste to our sewerage infrastructure without our consent.

We will provide a trade waste service including collection, conveyance and treatment of trade waste where the waste is of an appropriate volume and quality to be accepted for discharge to our sewerage infrastructure. The conditions of acceptance, and the associated charges, may differ depending on the level of risk associated with the discharge of trade waste to our sewerage infrastructure including the impact on the receiving sewage treatment plant.

Customer categories

We determine a trade waste customer's category by calculating a risk score based on the following four key elements: business activity, substance of concern, pre-treatment requirements and trade waste volume.

A customer's risk score provides an indication of the expected demand placed on our sewerage infrastructure by the trade waste discharged by the customer.

We classify trade waste customers into four primary categories:

- **Category 1:** Dischargers of trade waste of low volume or strength, which poses minimal risk to our sewerage infrastructure and can be managed through pre-treatment or cleaner production methods
- **Category 2:** Dischargers of trade waste of low to medium volume, which require physical pre-treatment at the source to make the trade waste acceptable for discharge to our sewerage infrastructure. Category 2 is further separated into three sub-categories (2A, 2B and 2C), based on an assessment of the commercial and technical risk associated with accepting a customer's trade waste to our sewerage infrastructure
- **Category 3:** Dischargers of trade waste which through volume, composition or quality, individually or combined, poses a medium risk to the operation of our sewerage infrastructure
- **Category 4:** Dischargers of trade waste which through volume, composition or quality, individually or combined, poses a high risk to the operation of our sewerage infrastructure.

Our Trade Waste Customer Category Guideline provides further detail on the categorisation of trade waste customers and is available on our website at www.taswater.com.au.

Tankered Trade Waste

In line with regulation 15 of the *Water and Sewerage Industry (General) Regulations 2009*, we do not accept tankered trade waste for direct discharge to sewer. These substances pose risks to:

- The health and safety of the community and our employees
- The environment
- Our sewerage infrastructure and treatment processes.

We apply a risk-based approach to determine whether we will accept certain types of tankered trade waste at designated receiving facilities.

Fees and Charges

The following fees and charges apply for each category of trade waste customer:

- Category 1 and 2 trade waste:
    - We will levy application fees, target trade waste charges and may levy a non-compliance charge
    - These charges will be levied in accordance with the Price and Service Plan 1 July 2018 to 30 June 2021 and indexed annually by 2.5 per cent as approved by the Regulator.

- Category 3 and 4 trade waste:
    - These customers must enter into a contract under Section 61 of the *Water and Sewerage Industry Act 2008*
    - We will levy application fees, volumetric charges and mass load charges, and may levy a non-compliance charge. We will determine these fees, charges and associated indexation annually
    - We will negotiate a transition period with each customer that reflects the reasonable time required for the customer to implement appropriate trade waste risk controls. During the respective transition period, volumetric and mass load charges will be levied at a percentage of the full cost. To comply with legislative requirements, any transition period must conclude with the customer paying 100 per cent of costs on, or before, 1 July 2020
    - The agreed transition period may include, but is not limited to, time for funding, design, construction, installation and commissioning of pre-treatment where required. Approved transition periods will require customers to achieve long term sewer acceptance limits and pay full charges by the conclusion of the period.
- Tankered Trade Waste:
    - We will levy management fees and tankered trade waste category fees on a per kilolitre basis
    - We will determine the fees, charges and associated indexation annually.

We will publish the schedule of fees and charges for each category of trade waste customer on our website at www.taswater.com.au.

Responsibility for Charges

The trade waste customer is responsible for ensuring that:

- They have our consent to discharge trade waste to our sewerage infrastructure from their property.
- They pay all charges levied by us for the provision of trade waste services to their property.

Definitions

Act means the *Water and Sewerage Industry Act 2008*.

application fee means the cost imposed by us for assessment of an application and making a determination about accepting trade waste to sewer.

consent has the same meaning as in the Customer Contract.

customer has the same meaning as in the Act.

Customer Contract has the same meaning as in the Act.

fixed sewerage charge has the same meaning as in the Customer Contract.

mass load charge is the charge applied to the quantity (in kilograms) of pollutant discharged by a customer to our sewerage infrastructure.

non-compliance charge is the charge levied when a customer fails to comply with the conditions of the consent permitting the customer to discharge trade waste to our sewerage infrastructure. The charge is a multiple of the target trade waste charge, where multipliers are used to calculate the applicable non-compliance charges to reflect either a minor or major non-compliance event.

Regulator means the Regulator referred to in section 11 of the Act.

trade waste has the same meaning as in the Act.

trade waste charge means a recurrent charge for the acceptance of trade waste from a customer, but does not include a fixed sewerage charge. The trade waste charge comprises:

- An annual management component which is calculated based on an apportionment of the time spent on the administrative and technical tasks required to adequately manage each category of trade waste customers and
- A usage component which is calculated based on the deemed average trade waste discharge volumes for trade waste customers in each category.

volumetric charge is the charge applied to the volume (in kilolitres) of trade waste discharged by a customer to our sewerage infrastructure

we or ***us*** means TasWater.

Legislation

- *Environmental Management and Pollution Control Act 1994*
- *Environmental Management and Pollution (Waste Management) Regulations 2010*
- *Water and Sewerage Industry Act 2008*
- *Water and Sewerage Industry (General) Regulations 2009*
- *Water and Sewerage Industry (Pricing and Related Matters) Regulations 2011*

Associated Documents

- Trade Waste Pre-treatment Guidelines – provides information regarding our pre-treatment requirements
- Trade Waste Customer Category Guideline – provides guidance on how we categorise trade waste and how we calculate trade waste charges
- Price and Service Plan 1 July 2018 - 30 June 2021 – explains our investment priorities, revenue requirements and pricing for the period
- Customer Contract - including the Commercial Trade Waste Consent

Responsibilities

The Chief Executive Officer of TasWater is responsible for implementing this policy.

Approved by the Board at its meeting on ..... of ..... 2018.

.....

Chairman

Land Development Policies

1 July 2018

TASWATER

Policy approval and Responsibilities

The Chief Executive Officer of TasWater is responsible for implementing these policies.
Approved by the Board at its meeting on ..... of ..... 2018.

.....
Chairman

Table of contents

1 Introduction

This document provides our policies relevant to land development, including developer charges, and service extension and expansion.

Information regarding connections to our water infrastructure and sewerage infrastructure can be found in our *Water and Sewerage Network and Charges Policies* document.

This document incorporates a number of policies required by the Act, the *Water and Sewerage Industry (Pricing and Related Matters) Regulations 2011* and by the Regulator in connection with our Price and Service Plan for the period 1 July 2018 to 30 June 2021.

We have, or are developing, long-term capital works strategies for each of our water and sewerage systems. We refer to these as Growth and Capacity Plans. These will be used as the basis for determining whether capacity is available for development.

1.1 Further Information

For further information about these policies and how they apply to your circumstances, please contact our Development Services Department on 13 6992 or development@taswater.com.au.

1.2 Relevant Legislation

- *Land Use Planning and Approvals Act 1993*
- *Water and Sewerage Industry Act 2008*
- *Water and Sewerage Industry (Pricing and Related Matters) Regulations 2011*

1.3 Customer Charter

Our Customer Charter explains our obligations consistent with the requirements under the Act, *Water and Sewerage Industry (Customer Service Standards) Regulations 2009* and the Code issued by the Regulator. It also outlines the rights and responsibilities of our customers and our commitment to providing reliable water services and sewerage services. It explains our business practices and provides the customer with reasonable expectations around our services, pricing, processes and responsibilities.

2 Developer Charges Policy

2.1 Aim

The aim of this Policy is to specify how and when we will impose developer charges and development assessment fees for new developments approved by the relevant planning authority.

2.2 Policy

2.2.1 Developer Charges

Developer charges may apply to new developments/uses approved by the relevant planning authority, where we decide to provide water and/or sewerage services to a development/use. If applicable, developer charges will be imposed as follows:

Developments within serviced land where:

- The existing water and/or sewerage infrastructure can accommodate the demands of the proposed development/use (capacity) – developer charges will not apply for the available capacity; or
- Capacity is not available - will require the developer to pay the cost of expansion of the system to the level of capacity required to service the development/use.

Developments outside serviced land where:

- Capacity is available within an existing system - the developer pays the costs of extension, including connection, to that system and may access the available capacity in that system at no additional charge; or
- Insufficient capacity is available within an existing system - the developer pays the costs of extension, including connection, to that system and expansion of the system to the level of capacity required to service the development/use. Any existing spare capacity in that system that is less than the total required for the development will be made available at no additional charge; or
- Isolated Developments - all costs are paid by the developer.

In our absolute discretion, we may contribute to the costs of development/use in accordance with section 2.2.3 below.

For new developments we refer to two types of water and/or sewerage infrastructure:

- Works Internal
- Works External.

Additional charges may apply under our Price and Service Plan and our *Water and Sewerage Network and Charges Policies* document.

This approach is summarised in the following table:

	Sufficient System Capacity	Insufficient System Capacity
Works Internal	Developer pays all costs	Developer pays all costs
Works External – Extension	Developer pays costs of Extension required for the development*	Developer pays costs of Extension required for the development*
Works External – Expansion	Not applicable	Developer pays costs of Expansion required for the development**

* Any development connecting to an existing system will as a minimum pay for the cost of connection to the mains of the existing system.
** We will refer to the system's Growth and Capacity Plan (where available) regarding capacity upgrades or other works planned. We will discuss these plans with the developer.

2.2.2 Advice Regarding Works Required

Works external required for a development/use will be assessed by us on a case by case basis. A developer will only pay Works External costs directly attributable to servicing their specific development/use.

As assessment is on a case by case basis, we will, upon request, provide details of the works required to service a proposed development/use (including mains connection costs) relating to any extension. The total works can then be independently costed by the developer.

2.2.3 Strategic Opportunities

In assessing a proposed development/use, we will consider any potential strategic benefits, such as alleviating public health issues or supporting economic development. If we believe there are sufficient strategic benefits we may fund any marginal cost over and above the cost of assets required to service the proposed development/use. The developer will pay the costs for assets required to support the development.

2.2.4 Development Services Fees

The following fees apply in relation to assessments, approvals and compliance activities for developments/use. Invoices will be issued when the fees become payable and are due within 30 days of issue.

- **Section 56W Consent Fee:** payable when we issue consent to build within two metres of our infrastructure
- **Certificate for Certifiable Work (CCW) and Certificate of Compliance (CoC) fee:** payable when you apply to us for a CCW that requires a CoC for either building and/or plumbing works
- **Development Application fee:** payable when you act on a planning permit which contains our conditions and prior to the issue of any other approval from TasWater
- **Engineering Design Approval and Development Compliance fee:** payable when you apply to us for our approval:
    - Of an engineering design for a development; or
    - To construct water and sewerage assets for a development that are to be transferred to us
- **Consent to Register a Legal Document fee:** payable when we issue our Consent to Register a Legal Document, such as a consent for registration of title documents for a subdivision development.

A full schedule of our development fees is provided in section 5 and on our website at www.taswater.com.au >Development >Fees & Charges.

3 Service Extension and Expansion Policy

3.1 Aim

The aim of this Policy is to outline the circumstances, and the terms and conditions, under which we will extend and expand our water infrastructure and/or sewerage infrastructure, including the circumstances in which we will extend or expand our water infrastructure and/or sewerage infrastructure at the request of a person.

3.2 Policy

3.2.1 Extension

Extension to our water infrastructure and/or sewerage infrastructure may be permitted following a written request from an individual property owner or as a result of a proposed development/use which is outside serviced land.

We will consider the following in assessing a potential extension that is not as a result of a proposed development/use:

- Impacts on existing customers or potential customers within serviced land; and
- Strategic benefits, such as:
    - Social – for example a new school, community facilities, aged care facility;
    - Economic – local or regional land use plan, new enterprise (commercial, industrial or agricultural); and
    - Protecting human health.

We will provide the technical requirements of the extension following a written request for extension. Permitted extensions must meet these technical requirements which include demonstrating that there will be no service reduction to existing customers.

Costs associated with extension to enable connection of unserviced land will be determined in accordance with our Developer Charges Policy (Section 1 of this document); and Section 2 and Section 6 of our *Water and Sewerage Network and Charges Polices* document as relevant.

For information regarding requests, and associated costs, for the connection of property within the serviced land area to a current water system and/or sewerage system refer to Section 2 and 8 of our *Water and Sewerage Network and Charges Polices* document.

3.2.2 Expansion

Expansion may be permitted as a result of a proposed development/use that is to be serviced by connection to an existing water system and/or sewerage system that has insufficient capacity to service that development, in accordance with the laws relating to land use planning and approvals.

The terms and conditions and costs associated with expansion will be determined in accordance with our Developer Charges Policy (Section 1 of this document); and Section 2 or Section 6 of our *Water and Sewerage Network and Charges Polices* document as relevant.

4 Definitions

Table 1: Definitions

Term	Meaning
Act	Means the *Water and Sewerage Industry Act 2008*.
Certificate for Certifiable Work	Means a certificate referred to in section 56TC(3) or section 56TC(4) of the Act that is issued by us under section 56TC of that Act.
Code	Means the Tasmanian Water and Sewerage Industry Customer Service Code issued by the Regulator under the Act.
expansion	Means the augmentation of water infrastructure and/or sewerage infrastructure to accommodate the development of a property that cannot be catered for by a current water system's capacity and/or current sewerage system's capacity.
extension	Means the lengthening of water infrastructure and/or sewerage infrastructure to enable connection of unserviced land to a current water system and/or current sewerage system.
isolated development	Means land that is proposed for development / change in use that is not designed to connect to our existing infrastructure.
planning authority	Has the same meaning as in section 3 of the *Land Use Planning and Approvals Act 1993*.
Price and Service Plan	Means a price and service plan approved under section 65 of the Act.
Regulator	Means the Regulator referred to in section 11 of the Act.
serviced land	Means land that we will permit to be connected to our water infrastructure or sewerage infrastructure. We have identified this land by individual title, in accordance with section 56U(1)(b) of the Act. Note: Information about our serviced land boundaries, including maps, is available on our website www.taswater.com.au, The List Map (maps.thelist.tas.gov.au) and for inspection by customers at our offices. We can also be contacted during business hours on 13 6992 for further information. Serviced land boundaries will change over time as the capacity of the system changes.
Works external	Means infrastructure that is external to a development site, for extension and/or expansion, required to service the development and is installed at a developer's cost and gifted to us.
Works internal	Means infrastructure that is within a development site that is installed at a developer's cost and gifted to us.

5 Development fees

Development Applications	FY2018/19	FY2019/20	FY2020/21
Minor	216.49	226.45	236.87
Medium	359.35	375.88	393.17
Major	691.24	723.04	756.30
Significant	1,165.99	1,219.62	1,275.72
Certificate for Certifiable Works (CCW) / Certificate for compliance (BAs & PAs)	**FY2018/19**	**FY2019/20**	**FY2020/21**
Minor	307.25	321.39	336.17
Medium	398.48	416.81	435.99
Major	448.85	469.50	491.09
Significant	566.44	592.50	619.75
CCW Exemption	40.60	42.46	44.42
Engineering design approval	**FY2018/19**	**FY2019/20**	**FY2020/21**
Minor	304.41	318.41	333.06
Medium	578.05	604.64	632.45
Major	1,451.72	1,518.50	1,588.35
Significant	2,071.53	2,166.82	2,266.49
Consent to Register and Legal Document	**FY2018/19**	**FY2019/20**	**FY2020/21**
Minor	148.84	155.68	162.84
Medium	148.84	155.68	162.84
Major	148.84	155.68	162.84
Significant	148.84	155.68	162.84
Sundry fees	**FY2018/19**	**FY2019/20**	**FY2020/21**
Land Information Certificate (section 56ZQ) request	39.25	39.75	40.25

Taswater

Water and Sewerage Network and Charges Policies

1 July 2018

TASWATER

Policy approval and Responsibilities

The Chief Executive Officer of TasWater is responsible for implementing these policies.

Approved by the Board at its meeting on ..... of ..... 2018.

.....
Chairman

Table of contents

1 Introduction

This document details our policies and provides information on charges relevant to water and sewerage connections to our network.

Information regarding land development, including developer charges, can be found in our *Land Development Policies* document.

Information regarding the circumstances and conditions under which we will consider connections to our network outside our serviced land, can be found in our *Conditional Connections – Connections outside serviced land policy*. This policy is available on our website at www.taswater.com.au.

This document incorporates a number of policies required by the Act, the Pricing Regulations and by the Regulator in connection with our Price and Service Plan for the period 1 July 2018 to 30 June 2021.

The policies and information included are specific to:

- Connections
- Serviced land
- Sub-metering
- Service charges and
- Service introduction charges.

1.1 Further Information

For further information about these policies and how they apply to your circumstances, please contact us on 13 6992 or enquiries@taswater.com.au.

1.2 Relevant Legislation

- *National Measurement Act 1960*
- *Strata Titles Act 1998*
- *Water and Sewerage Industry Act 2008* (Act)
- *Water and Sewerage Industry (Community Service Obligation) Act 2009*
- *Water and Sewerage Industry (Customer Service Standards) Regulations 2009* (Customer Service Standards Regulations)
- *Water and Sewerage Industry (Pricing and Related Matters) Regulations 2011* (Pricing Regulations)

1.3 Customer Charter

Our Customer Charter explains our obligations consistent with the requirements under the Act, the Customer Service Standards Regulations and the Code issued by the Regulator. It also outlines the rights and responsibilities of our customers and our commitment to providing reliable water services and sewerage services. It explains our business practices and provides the customer with reasonable expectations around our services, pricing, processes and responsibilities.

2 Connection Policy - Connections to Our Water and Sewerage Network

2.1 Aim

The aim of this Policy is to specify the circumstances in which we will permit an owner of land to connect, or relocate or adjust a connection to our water infrastructure or sewerage infrastructure.

2.2 Exclusions

This Policy does not cover situations where:

- The property is outside our serviced land; or
- The property is within our serviced land but is being subdivided; or
- There is a change in land use relating to the property contained within our serviced land.

2.3 Connection to our water infrastructure and/or sewerage infrastructure

We will connect a property to our infrastructure if the following criteria are met:

- The person requests us to connect the property to the infrastructure; and
- The property is within 30 metres of the infrastructure and for water services, can be supplied with treated water; and
- The physical characteristics or location of the property are not such as to require the application of unusual or unusually costly infrastructure, design, or installation techniques in order for the connection to be made by us; and
- The connection does not cross property owned by a third party; and
- No plan of subdivision, or other instrument of a type approved by the Regulator, specifies that connection to our infrastructure, or provision of regulated services by us will not occur; and
- The property will receive the minimum pressure and flow at the connection as described in the Supplement (available on our website at www.taswater.com.au); and
- The person has complied with all reasonable terms and conditions of connection imposed by us; and
- The applicant has paid, or has agreed to pay, all applicable fees for connection.

If these requirements are met we will connect the property within 10 business days or such later date as agreed. To facilitate connection, we also require the following:

- A land title has been issued for the property or consent received from the landowner; and
- If necessary, a Certificate for Certifiable Work has been issued; and
- An Application for Water and Sewerage Connections form has been submitted to us by the applicant and has been completed to our satisfaction.

2.4 Relocation of a connection to our water infrastructure and/or sewerage infrastructure

We will permit an owner of land to relocate a water connection or sewerage connection on that land if the following criteria have been met:

- The person requests the relocation of the connection to the infrastructure; and
- The relocation will not result in our infrastructure crossing property owned by a third party; and
- A Certificate for Certifiable Work has been issued; and
- The property will, following relocation of the connection, receive the minimum pressure and minimum flow rate at the connection as described in the Supplement; and

- The person has complied with all reasonable terms and conditions of relocation of connection imposed by us; and
- An Application for Water and Sewerage Connections form has been submitted by the applicant to us and has been completed to our satisfaction; and
- The applicant has paid, or has agreed in writing to pay, all applicable fees and charges.

2.5 Adjustment of a connection to our water infrastructure and/or sewerage infrastructure

Adjustment includes downsizing and/or disconnection of a standard water connection and disconnection of a standard sewerage connection. We will permit an owner of land to adjust a connection on that land if the following criteria have been met:

- The person requests the adjustment to the connection to the infrastructure; and
- The adjustment will not result in our infrastructure crossing a property owned by a third party; and
- A Certificate for Certifiable Work has been issued; and
- The property will, following adjustment of the connection, receive the minimum pressure and minimum flow rate at the connection as described in the Supplement; and
- The person has complied with all reasonable terms and conditions of adjustment of connection imposed by us; and
- An Application for Water and Sewerage Connections form has been submitted by the applicant to us and has been completed to our satisfaction; and
- The applicant has paid, or has agreed in writing to pay, all applicable fees and charges.

2.6 Connection, relocation of connection and adjustment of connection costs

Costs for the water and sewerage works component of connections, relocations of connections and adjustments of connections are detailed in our Price and Service Plan approved by the Regulator, and are also provided in section 8 of this document and available on our website at www.taswater.com.au. These are in addition to any other fees and charges applicable under the Price and Service Plan, including:

- Recurrent fixed charges and volumetric consumption charges in respect of the provision of water services and/or sewerage services to the property
- Relevant development assessment fees.

2.7 Other connections

In addition to standard connections, we may permit other types of connections to our network, including new land development. Additional charges and fees may apply for these connections. Refer to the relevant policy for more information.

Land development

New developments have the potential to increase demand on the capacity of our water infrastructure and sewerage infrastructure. Our *Land Development Policies* document provides details on how we support and manage development.

New services to existing localities

We will consider requests for the introduction of water and/or sewerage services to existing localities in accordance with section 6 of this document.

Connections outside serviced land

Under limited circumstances we may permit connections to our network outside serviced land. The considerations and assessment criteria for these connections are outlined in our Conditional Connections Policy available for viewing on our website at www.taswater.com.au.

3 Our Serviced Land

3.1 Background

Section 56U(1)(b) of the Act requires our Price and Service Plan to include a description of the land, identifiable by individual title or locality, that we will permit to be connected to our water infrastructure or sewerage infrastructure. This description of land is referred to as the description of "serviced land".

We have identified serviced land using individual land titles that meet the requirements of section 2.3 of this document (Connection Policy - Connections to our water infrastructure and/or sewerage infrastructure).

3.2 Description of serviced land – Water

We identify serviced land based on servicing factors and the standards in the Supplement (available on our website www.taswater.com.au). The Supplement details our minimum service pressure at peak hour demand and minimum flow rate:

- Minimum service pressure at the connection point is 220kPa, static head of 22m (section 2.5.3.3)
- Minimum flow rate 15 litres/minute (L/m) at the connection point (section 2.12).

Land titles are defined as water serviced land when they meet all of the following criteria:

- Can be supplied with treated water; and
- Are within 30 metres of our water reticulation main; and
- Can receive the minimum flow and pressure at the connection point; and
- Connection to our reticulation main would not cross land owned by a third party; and
- The physical characteristics or location of the land are not such as to require the application of unusual or unusually costly infrastructure, design, or installation techniques in order for the connection to be made.

Treated water means either fully treated water or disinfection only water supplies. Raw water supplies are excluded. Customers in serviced land receiving water that is not safe for drinking will receive a discount on the regulated variable consumption rate.

Land titles that do not meet the criteria listed above are unserviced for water.

Existing connections that receive untreated water (raw water) or are directly connected to a bulk transfer main are connections outside our serviced land and are dealt with in accordance with our Customer Contract (www.taswater.com.au) or other Agreements.

Application for new connections for untreated water (raw water) or direct connection to a bulk transfer main are considered connections outside our serviced land and are dealt with in accordance with our Conditional Connections Policy (www.taswater.com.au).

3.3 Description of serviced land – Sewer

We have a range of sewerage infrastructure around the state depending on local conditions and topography.

Land titles are defined as sewer serviced land when they meet all the following criteria:

- Are within 30 metres of our sewer reticulation main; and
- Connection to our reticulation main would not cross land owned by a third party; and

- The physical characteristics or location of the land title are not such as to require the application of unusual or unusually costly infrastructure, design, or installation techniques in order for the connection to be made by us; and
- Are not otherwise considered unserviced land in accordance with section 3.4 below.

Land titles that do not meet the criteria listed above are unserviced for sewer.

3.4 Unserviced land

Unserviced land is land, identified by land title, which is not within serviced land. We do not have any obligation to provide a connection to titles that are outside serviced land.

Pressure sewer schemes established before 1 July 2015 are defined as unserviced land. Table 1 below lists these areas.

Each of our Conditional Connections Policy and our *Land Development Policies* document (available on our website, www.taswater.com.au) outline the circumstances when we will consider allowing unserviced land to connect to our network.

Table 1: List of pressure sewer schemes established before 1 July 2015 (indicative only)

Area	Type of system
Bell Buoy Beach	Pressure sewer scheme with privately owned pump stations
Boat Harbour	Pressure sewer scheme with TasWater-owned pump stations
Dunalley (near Dunalley Hotel)	Pressure sewer scheme with TasWater-owned pump stations
Lauderdale	Pressure sewer scheme with TasWater-owned pump stations
Low Head	Pressure sewer scheme with privately owned pump stations
Wynyard	Pressure sewer scheme with TasWater-owned pump stations

4 Sub-metering Policy

4.1 Aim

The aim of this Policy is to outline our approach to sub-metering of existing and new strata schemes and multi-unit properties. This policy applies to all residential and non-residential strata schemes and multi-unit properties.

4.2 Multi-unit properties

4.2.1 New multi-unit properties

All new multi-unit properties for which we issue a Certificate for Certifiable Work will have a master meter at the connection point. The owner will be billed for the fixed and variable charges with the fixed charge based on the master meter size and the variable charge based on the volume of water supplied through the master meter.

4.2.2 Sub-metering new multi-unit properties

All new multi-unit properties will have a master meter at the connection point. The owner of a new multi-unit property has the option of installing sub-meters for each unit.

The owner has the option of using a third party to undertake installation and reading of sub-meters in multi-unit properties, as these are unregulated services.

At our discretion, we may approve each unit being individually connected to our water main.

4.2.3 Existing multi-unit properties – no sub-meters

All existing multi-unit properties will have a master meter at the connection point. The owner will be billed for the fixed and variable charges with the fixed charge based on the master meter size and the variable charge based on the volume of water supplied through the master meter.

4.2.4 Sub-metering existing multi-unit properties

All existing multi-unit properties will have a master meter at the connection point. The owner of an existing multi-unit property has the option of installing sub-meters for each unit.

The owner has the option of using a third party to undertake installation and reading of sub-meters in multi-unit properties, as these are unregulated services.

4.2.5 Existing multi-unit properties with sub-meters

If the multi-unit property is already sub-metered, we will bill the owner for the fixed and variable charges with the fixed charge based on the master meter size and the variable charge based on the volume of water supplied through the master meter.

The owner has the option of entering into an agreement with us or a third party for the reading of sub-meters.

4.3 Strata schemes

4.3.1 New strata schemes

New strata schemes must be metered in only one of the following ways:

(a) Single master meter only;

(b) Master meter and sub-meters; or

(c) Lots individually connected to our water main.

Until a property is strata titled, it will have a water meter at the connection point with fixed and variable charges the responsibility of the owner. The fixed charge is determined by the size of the water meter and the variable charge is determined by the volume of water measured by the water meter.

The subsequent installation of sub-meters is at the property owner's discretion and cost, as a property is strata titled after the completion of our development assessment process.

(a) Single master meter only

If the owner decides not to install sub-meters each lot owner will be billed for a proportion, determined by their respective general or special unit entitlement, of the fixed charge with the fixed charge determined by the size of the master meter.

The applicable variable charge will be determined by the volume of water measured by the master meter and can be billed either to the strata scheme's body corporate or to individual lot owners in line with Regulation 18 of the Pricing Regulations.

Where the variable charge is billed to the lot owners the amount must be apportioned on the basis of the general unit entitlement of the lot, or, if there is a special unit entitlement relating to the lot in respect of the liability for charges for water use, on the basis of the special unit entitlement of the lot.

(b) Master meter and sub-meters

If the owner decides to install sub-meters we will supply the sub-meters at no cost, to be installed at the owner's cost.

Sub-meters must be installed to our approved installation standards and remain our property. We will maintain the sub-meters.

Once sub-meters have been installed and tested the lot owner will be billed a fixed charge based on the size of the sub-meter and a variable charge based on the volume of water supplied to the lot as measured by the sub-meter.

In addition, each lot owner's bill will include a proportion, determined by the general or special unit entitlement, of:

- Fixed and variable charges for the common property(s) sub-meter(s) (if applicable); and
- The difference between the master meter reading and the sum of the individual sub-meter readings when the master meter reading is greater than the sum of the individual sub-meter readings.

Where the master meter reading is less than the sum of the individual sub-meter readings each lot owner will be billed for the volume of water supplied to the lot as measured by the relevant sub-meter. The smaller sub-meters are more accurate than master meters.

(c) Individual connection to our water main

Where there is no common property, no interposing pipe work and no requirement for a master meter we may, at our discretion, approve each lot being individually connected to our water main.

Where each lot is individually connected to our water main each lot owner will be billed a fixed charge (based on the size of each lot's individual water meter) and a variable charge based on the volume of water supplied to each lot as measured by the lot's individual water meter.

4.3.2 Existing strata schemes

Existing strata schemes are metered in one of the following ways:

(a) Single master meter only;
(b) Master meter and sub-meters;
(c) No master meter and individual lot water meters;
(d) Lots connected individually to our water main;
(e) Master meter but with some individual lots connected directly to our water main;
(f) Multiple master meters; or
(g) Multiple master meters but with some individual lots connected directly to our water main.

(a) Single master meter only

Each lot owner will be billed for a proportion, determined on the basis of the general or special unit entitlement, of the fixed charge with the fixed charge determined by the size of the master meter.

The applicable variable charge will be determined by the volume of water measured by the master meter and can be billed either to the strata scheme's body corporate[1] or to lot owners.

Where the variable charge is billed to the lot owners the amount must be apportioned on the basis of the general unit entitlement of the lot, or, if there is a special unit entitlement relating to the lot in respect of the liability for charges for water use, on the basis of the special unit entitlement of the lot.

(b) Master meter and sub-meters

If all lot owners in a strata scheme agree to sub-metering and the body corporate provides us with a copy of a unanimous resolution authorising the installation of sub-meters and a completed application form, we will supply lot owners with sub-meters at no cost to be installed at the lot owners' cost. We will maintain the sub-meters.

Sub-meters must be installed to our approved installation standards and remain our property.

Once sub-meters have been installed and tested, each lot owner will be billed a fixed charge (based on the size of the sub-meter) and a variable charge based on the volume of water supplied to the lot as measured by the sub-meter.

In addition, each lot owner's bill will include a proportion, determined on the basis of the general or special unit entitlement, of:

- Fixed and variable charges for the common property(s) sub-meter(s) (if applicable); and
- The difference between the master meter reading and the sum of the individual sub-meter readings when the master meter reading is greater than the sum of the individual sub-meter readings.

Where the master meter reading is less than the sum of the individual sub-meter readings, each lot owner will be billed on the volume of water supplied to the lot as measured by the relevant sub-meter.

[1] Regulation 18(1) of the *Water and Sewerage Industry (Pricing and Related Matters) Regulations 2011.*

(c) No master meter and individual lot water meters

Where there are water meters on individual lots but no master meter, each lot owner will be billed a fixed charge (based on the size of each lot's water meter) and a variable charge based on the volume of water supplied to the lot as measured by the lot's individual water meter. In addition, if there is a water meter for common property, each lot owner's bill will include a proportion, determined by the general or special unit entitlement, of the fixed and variable charge for the common property.

If the individual lot water meters are not installed at the connection point we may, at our discretion and at our cost, install a master meter at the connection point to measure any water potentially lost between the connection point and the individual lot water meters.

If we install a master meter, the individual lot water meters and common property(s) water meter (if applicable) will be deemed to be sub-meters and each lot will be billed a fixed charge (based on the size of the sub-meter) and a variable charge based on the volume of water supplied to the lot as measured by the sub-meter.

In addition, each lot owner's bill will include a proportion, determined by the unit (general or special) entitlement of:

- Fixed and variable charges for the common property(s) sub-meter(s) (if applicable); and
- The difference between the master meter reading and the sum of the individual sub-meter readings when the master meter reading is greater than the sum of the individual sub-meter readings.

Where the master meter reading is less than the sum of the individual sub-meter readings, each lot will be billed on the volume of water supplied to the lot as measured by the sub-meter.

(d) Individual connection to our water main

Where each lot in a strata scheme is individually connected to our water main and there is no common property, no interposing pipe work and no requirement for a master meter each lot owner will be billed a fixed charge (based on the size of each lot's individual water meter) and a variable charge based on the volume of water delivered to each lot as measured by the lot's individual water meter.

(e) Other metering configurations

Due to legacy plumbing arrangements some strata schemes are metered as follows:

- Master meter plus some lots individually metered; or
- Multiple master meters; or
- Multiple master meters plus some lots individually metered.

Where the above metering configurations apply, each lot owner will be billed for a proportion, determined on the basis of the general or special unit entitlement, of the sum of the individual fixed charges for all the water meters required to meter all the lots in the strata scheme with the fixed charges determined based on the size of the individual water meters.

In addition, each lot owner will be billed a variable charge for a proportion, determined on the basis of the general or special unit entitlement, of the sum of the volume of water measured by all of the water meters in the strata scheme.

Common Property

The installation of a sub-meter for common property in a strata scheme is optional. Where common property is not sub-metered the difference between the volume of water measured at the master meter and the sum of the volume of water measured by each of the sub-meters for the individual lots will be deemed to be the water supplied to common property.

If all lot owners agree to the installation of a sub-meter(s) for common property, each lot owner's bill will include a proportion, determined on the basis of the general or special unit entitlement, of the fixed charge for the common property sub-meter.

The variable charge for common property, whether deemed as above, or measured by a sub-meter, can be billed either to the strata scheme's body corporate[2] or to the individual lot owners.

Where the variable charge is billed to the lot owners the amount must be apportioned on the basis of the general unit entitlement of the lot, or if there is in respect of the lot a special unit entitlement in respect of the liability for charges for water use, on the basis of the special unit entitlement of the lot.

Apportionment of charges based on unit entitlements

Where details of the strata general or special unit entitlements are available from the Land Titles Office Cadastral Spatial Layer the apportionment will be based on those entitlements. Where this information is not available, the charges will be shared equally across all of the lots, unless the body corporate advises us of an alternative apportionment in writing in the form of a copy of a unanimous resolution.

Change to unit entitlements

Lot owners may change the unit entitlements that apply to their strata scheme. However unit entitlement changes must be made in accordance with the requirements set out in Section 17 of the *Strata Titles Act 1998*:

> (1) The unit entitlements of the lots created by a plan may be changed –
>
> (a) by unanimous resolution of the body corporate; or
>
> (b) by order under Part 9; or
>
> (c) if the total unit entitlements of the lots subject to the change are not affected, by agreement between the owners of the lots and with the consent of the registered mortgagees and lessees of the lots.
>
> (2) A change of unit entitlements under subsection (1) does not take effect until the plan is changed by registration of an amendment including the change.

The body corporate must provide us with a copy the unanimous resolution authorising the change of unit entitlements together with evidence that the change to the plan has been registered, in line with Section 17(2) of the *Strata Titles Act 1998* detailed above.

Fire Services

Strata schemes may have a dedicated water service to a fire hose reel for fire protection purposes. Where such a service is provided a fire service charge will apply to the strata scheme and each lot owner's bill will include a proportion, determined by the general or special unit entitlement, of the applicable fire service charge.

[2] Regulation 17(2) of the Pricing Regulations.

Concessions

A lot owner's eligibility for a concession is unaffected by a strata scheme's water meter configuration.

4.4 Associated Documents

- TasWater Water Metering Guidelines
- TasWater Property Services Connection Standards Drawing – Water Services
- TasWater Boundary Backflow Containment Selection Requirements
- TasWater Sub-metering Application Form

5 Service Charges Policy

5.1 Aim

This Policy outlines the circumstances when we will impose a service charge in relation to serviced land and the amount of, or the method of determining the amount of, the service charge.

5.2 Policy

A service charge will be imposed on unconnected properties located within serviced land to ensure equity with other connected customers who would otherwise have to pay for the infrastructure.

5.3 Amount of service charge

The amount of the relevant service charge is listed in Section 8 of this document and in our Price and Service Plan available on our website www.taswater.com.au.

5.4 Notice to affected titles

We will not impose a service charge unless we first serve notice on the owner(s) of the land and publish a notice in a newspaper circulating generally in the area in which the affected land is situated. We will provide a copy of the notice for inspection at our offices and on our website www.taswater.com.au.

The notice will:

- Define the locality to which it applies; and
- Specify the services available; and
- Generally identify the land to which the services are available; and
- Fix a date on and from which the service charge will be payable, being a date not less than three months from the date of the notice.

We are not required to serve written notice when imposing a service charge in respect of land that was the subject of a service rate or service charge under (the now repealed) section 95 of the *Local Government Act 1993* immediately prior 9 July 2008.

6 Service Introduction Charges Policy

6.1 Aim

This Policy outlines the circumstances and the terms and conditions that must be met for us to introduce water services and/or sewerage services (service introduction) to an area not previously receiving those services and the charges that will apply.

6.2 Introduction of service

We will consider service introduction for water services and/or sewerage services when a proposal is put forward by:

- A community or a council on behalf of the community; or
- The relevant council's Environmental Health Officer, the Environment Protection Authority (EPA) or the Department of Health and Human Services (DHHS), who have identified that the absence of water services and/or sewerage services is causing significant and/or wide scale environmental harm and/or public health issues.

6.2.1 Stage 1 Initial Consultation

We will consult with each relevant community on any service introduction proposal. As part of this consultation we will define the proposed service introduction area(s). Using the proposed service introduction area(s) we will provide property owners and the community generally, the following information:

- High-level, preliminary design work,
- Estimated service introduction charges per title for the service(s).

In order to proceed to Stage 2, the service introduction proposal must be commercially viable. External funds will offset the costs and subsequent service introduction charges.

6.2.2 Stage 2 Indicative Community Support

Consideration of service introduction will only proceed to Stage 3 if at least 50 per cent of each relevant community supports the proposal.

6.2.3 Stage 3 Community Commitment to Service Introduction

A detailed design and business case will be developed for service introduction as part of this stage. These will provide a more accurate estimate of the project costs and the service introduction charges. Approval of the business case by the TasWater Board will be conditional, amongst other factors, on the 80 per cent community threshold (detailed below) being achieved.

For the proposal to progress to the procurement and construction stage, at least 80 per cent of the owners of developed land within the proposed service introduction area must enter into an agreement committing to connect to the relevant system and to pay the service introduction charge.

Developed land means land titles where there is an existing development and/or use that would reasonably be expected to require or receive reticulated drinking water services and/or sewerage services. This may include, but not be limited to, a residential dwelling or commercial premises. It would not include other uses that do not require drinking water, for example, irrigation or stock watering.

Following the conclusion of the Stage 3 consultation we will advise the community of the results of the consultation and the next steps for the project.

6.3 Service introduction charges

Service introduction charges will reflect the reasonable costs of providing the infrastructure less what would be recovered from customers in the new service area through ongoing annual water charges and/or sewerage charges.

We will calculate service introduction charges at two stages of the consultation process:

- Stage 1 – estimated service introduction charges based on the net present value (NPV) of the cost of providing the infrastructure specific to the service introduction less the present value of the amount that would be recovered from 80 per cent of customers through ongoing annual water charges and/or sewerage charges.
- Stage 3 – final service introduction charges based on the net present value (NPV) of the cost of providing the infrastructure specific to the service introduction less the present value of the amount that would be recovered from the actual percentage of committed customers (more than 80 per cent) through ongoing annual water charges and/or sewerage charges.

Any third party funding contributions will be subtracted from the NPV calculations. This calculation determines the commercial viability.

Service introduction charges will be levied on the owner of land who has signed a contract committing to a connection from the date on which the property is able to connect to our water infrastructure and/or sewerage infrastructure and the agreement has commenced.

The owner of a property to which a service introduction charge relates may elect to pay the charge:

- Over a period of not less than 12 months; or
- At the owner's request, over a period of less than 12 months.

6.4 Other Charges

In addition to service introduction charges, a connection charge for water services and/or sewerage services will be payable when the property is connected to our water infrastructure and/or sewerage infrastructure in accordance with section 2 of this document and the agreement has commenced. The list of connection and other charges is provided in section 8 of this document.

Ongoing fixed and variable charges will also apply once the property is connected and the agreement has commenced.

Owners of land who choose not to connect to our services will become liable to pay service charges following completion of works and availability of services and once the requirements of our Services Charges Policy have been met (see section 5).

7 Definitions

Table 2: Definitions

Term	Meaning
Act	Means the *Water and Sewerage Industry Act 2008.*
body corporate	Has the same meaning as in section 3 of the *Strata Titles Act 1998.*
Certificate for Certifiable Work	Means a certificate referred to in section 56TC(3) or section 56TC(4) of the Act that is issued by us under section 56TC of the Act.
Code	Means the Tasmanian Water and Sewerage Industry Customer Service Code issued by the Regulator under the Act.
common property	Has the same meaning as in section 3A of the *Strata Titles Act 1998.*
concession	Means a concession granted under section 8 of the *Water and Sewerage Industry (Community Service Obligation) Act 2009*.
connection point	Has the same meaning as in section 3 of the Act.
connection charge	Means a charge calculated by reference to the costs that are associated with installing assets that are dedicated to the provision of water services and/or sewerage services to a particular customer.
Customer Service Standards Regulations	Means the *Water and Sewerage Industry (Customer Service Standards) Regulations 2009*
fixed charge	Has the same meaning as in section 3 of the Pricing Regulations.
infrastructure	Means water infrastructure or sewerage infrastructure.
interposing pipe work	Means any pipe work that is between the connection point and the sub-meter and between the sub-meter and the strata titled lot. We do not own and are not responsible for providing and/or maintaining interposing pipe work.
lot	Has the same meaning as in section 16(2)(a) of the *Strata Titles Act 1998.*
master meter	Means a water meter installed at the connection point that measures the total volume of water supplied to a strata scheme or a multi-unit property. A master meter may be connected to sub-meters.
multi-unit property	Means a property which has more than one sole occupancy unit on one freehold title (ie a property not established as a strata scheme).
owner	Means: (a) the registered proprietor of the land noted on the Folio of the Register maintained by the Recorder of Titles; or (b) the legal owner of general law land maintained by the Recorder of Titles.

Term	Meaning
Price and Service Plan	Means a price and service plan approved under section 65 of the Act.
Pricing Regulations	Means the *Water and Sewerage Industry (Pricing and Related Matters) Regulations 2011.*
Regulator	Means the Regulator referred to in section 11 of the Act.
service charge	Means a charge levied under section 68A of the Act and detailed in section 5 of this document.
service introduction	Means the construction of water infrastructure and/or sewerage infrastructure by us to provide reticulated water services and/or sewerage services to established communities/townships not previously receiving reticulated water services and/or sewerage services.
service introduction charge	Means a charge, in respect of a property, that relates to the installation, alteration or utilisation of assets by us so as to enable the provision by us of a regulated service to the property but does not include: • a connection charge; or • a fixed charge; or • a developer charge.
serviced land	Means land that we will permit to be connected to our water infrastructure or sewerage infrastructure. We have identified this land by individual title, in accordance with section 56U(1b) of the Act. *Note: Information about our serviced land boundaries, including maps, is available on our website www.taswater.com.au, The List Map (maps.thelist.tas.gov.au) and for inspection by customers at our offices. For further information contact us during business hours on 13 6992.* *Serviced land boundaries will change over time as the capacity of the system changes.*
sole occupancy unit	Means a building or other part of a building for occupation by one lessee, tenant or other occupier to the exclusion of any other lessee, tenant, or other occupier. A sole occupancy unit also included any part of the building that is common property or common property.
standard sewerage connection	Means a 100mm or 150mm residential sewerage connection.
standard water connection	Means a 20mm or 25mm residential water connection.
strata scheme	Has the same meaning as in section 3 of the *Strata Titles Act 1998.*
sub-meter	Means a water meter that measures individual usage of water downstream of a master meter. The minimum sub-meter size is nominally 20mm.

Term	Meaning
sub-metering	Means the installation of individual water meters to measure the volume of water supplied downstream of a master meter.
Supplement	Means the *TasWater Supplement to Water Supply Code of Australia WSA 03-2011-3.1 MRWA Edition* (available on our website at www.taswater.com.au)
unanimous resolution	Has the same meaning as in section 3 of the *Strata Titles Act 1998.*
unit entitlement (also general unit entitlement and special unit entitlement)	Has the same meaning as in section 16 of the *Strata Titles Act 1998.*
variable charge	Has the same meaning as in section 3 of the Pricing Regulations.
water meter	Means a device, including equipment related to the device, for measuring the volume of water delivered to a property.

8 Water and Sewerage Network Charges and Fees

Regulated water and sewerage prices ($)

Prices	FY2018/19	FY2019/20	FY2020/21
Water - $ per 20mm connection	344.64	360.49	377.07
Water - $ per kl	1.07	1.12	1.17
Water - service charge[1]	344.64	360.49	377.07
Sewerage - per ET	661.32	691.74	723.56
Sewerage - service charge[2]	396.79	415.04	434.14

1 Unconnected property in water serviced land
2 Unconnected property in sewerage serviced land

Fixed water connection price by connection size ($)

Connection size	Multiplier	FY2018/19	FY2019/20	FY2020/21
20	1.00	344.64	360.49	377.07
25	1.56	538.49	563.26	589.17
30	2.25	775.43	811.10	848.41
32	2.56	882.27	922.85	965.30
40	4.00	1,378.54	1,441.96	1,508.29
50	6.25	2,153.98	2,253.06	2,356.70
65	10.56	3,640.22	3,807.67	3,982.82
75	14.06	4,846.44	5,069.38	5,302.57
80	16.00	5,514.18	5,767.83	6,033.15
100	25.00	8,615.90	9,012.23	9,426.80
150	56.25	19,385.78	20,277.53	21,210.29
200	100.00	34,463.61	36,048.93	37,707.18
250	156.25	53,849.39	56,326.46	58,917.48

Fire service charge by connection size ($)

Connection size	Multiplier	FY2018/19	FY2019/20	FY2020/21
20	1.00	86.16	90.12	94.27
25	1.56	134.62	140.82	147.29
30	2.25	193.86	202.78	212.10
32	2.56	220.57	230.71	241.33
40	4.00	344.64	360.49	377.07
50	6.25	538.49	563.26	589.17
65	10.56	910.05	951.92	995.71
75	14.06	1,211.61	1,267.35	1,325.64
80	16.00	1,378.54	1,441.96	1,508.29

Connection size	Multiplier	FY2018/19	FY2019/20	FY2020/21
100	25.00	2,153.98	2,253.06	2,356.70
150	56.25	4,846.44	5,069.38	5,302.57
200	100.00	8,615.90	9,012.23	9,426.80
250	156.25	13,462.35	14,081.61	14,729.37

Prices for miscellaneous services ($)

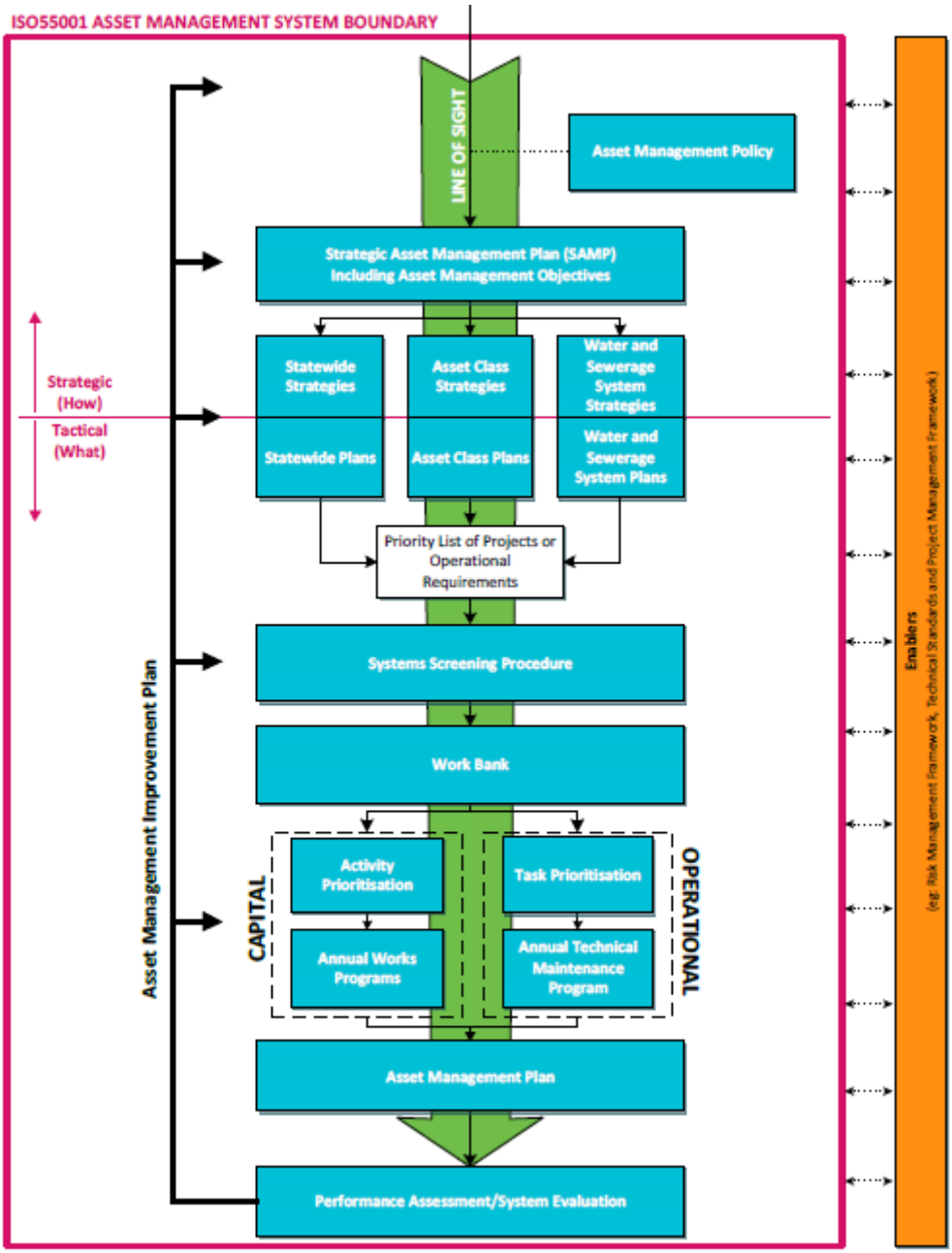
Service	FY2018/19	FY2019/20	FY2020/21
Water Connections			
Standard 20mm water connection	2,225.76	2,309.06	2,417.50
Standard 25mm water connection	2,443.27	2,535.52	2,655.86
Non-standard water connection	POA	POA	POA
20mm water meter supply & installation	408.80	422.06	438.65
>20mm water meter supply & installation	POA	POA	POA
Sewer Connections			
Standard 100mm sewerage connection	1,596.41	1,652.14	1,723.40
Non-standard sewer connection	POA	POA	POA
Disconnection			
Standard disconnection (water and/or sewerage)	455.02	471.46	492.67
Relocation			
Standard water connection relocation - under 3 metres	1,490.03	1,545.76	1,618.28
Standard sewerage connection relocation – under 10 metres	1,566	1,625	1,702
Water connection relocation - greater than 3 metres	POA	POA	POA
Sewerage connection relocation – greater than 10 metres	POA	POA	POA
Fire Service			
Fire service installation	POA	POA	POA
Water Metering Fees			
Special water meter reads	59.55	61.17	63.08
Water meter testing - onsite	79.97	81.99	84.47
Water meter testing - offsite	POA	POA	POA
Water meter downsizing (50mm to 20mm)	374.55	389.22	408.51
Water meter downsizing (all others)	POA	POA	POA
Sundry Fees			

Service	FY2018/19	FY2019/20	FY2020/21
Right to information request	39.25	39.75	40.25
Pressure and Flow Testing	105.76	108.55	112.01
Account establishment and closure	48.84	49.81	50.81

Note: POA – Price on application

Taswater

APPENDIX 6 - TasWater's Asset Management System Elements



Source: TasWater, *Asset Management System Approach, June 2015.*

APPENDIX 7 - TasWater's Capex projects for the Second Regulatory Period ($'000s)

Project / Program Name	2015-16	2016-17	2017-18	TOTAL
Small Town Water Supply Strategy	-	1,397,000	17,500,000	18,897,000
Metering Program	3,678,000	4,300,000	7,140,000	15,118,000
Kingborough Sewerage Strategy - Network	437,000	5,170,000	9,383,000	14,990,000
SCADA Program	8,568,000	3,000,000	2,800,000	14,368,000
Asset Management Information System (AMIS) - Stage 2	7,014,000	6,179,000	-	13,193,000
Sewer Main Renewals Program	5,156,000	4,200,000	3,770,000	13,126,000
King Island Treated Water Supply	942,000	5,225,000	6,000,000	12,167,000
Sewer Pump Station Renewals Program	3,747,000	4,525,000	3,400,000	11,672,000
Flinders Island Water Supply	8,563,000	2,972,000	120,000	11,655,000
Minor Projects Program	2,903,000	3,200,000	5,440,000	11,543,000
Direct to Asset Purchases	5,476,000	3,301,000	1,410,000	10,187,000
Tolosa Dam Replacement Infrastructure	1,594,000	8,367,000	-	9,961,000
Sewer Treatment Plant Renewal Program	2,301,000	5,530,000	1,890,000	9,721,000
Non-network other	-	5,300,000	4,100,000	9,400,000
Electrical Program	3,400,000	2,000,000	3,330,000	8,730,000
Work In Progress (FY2014/15)	5,439,000	2,174,000	436,000	8,049,000
Rosebery Water Treatment Plant - Construction	8,000,000	-	-	8,000,000
Gretna / Bushy Park / Glenora Water Supply Upgrade	2,605,000	5,147,000	153,000	7,905,000
Margate Water Main Upgrade Stage 2	1,597,000	1,459,000	3,261,000	6,317,000
Non-network IT	1,950,000	2,000,000	2,000,000	5,950,000
Opex To Capex	5,922,000	-	-	5,922,000
Fleet (Vehicles and Plant) Replacement Program	5,780,000	-	-	5,780,000
Sewerage Inlet Works	4,540,000	921,000	-	5,461,000
Water Treatment Plant Renewal Program	950,000	3,310,000	1,200,000	5,460,000
Conglomerate Dam Upgrade	230,000	1,950,000	3,080,000	5,260,000
System optimisation - Water	-	500,000	4,500,000	5,000,000
System optimisation - Sewer	-	500,000	4,500,000	5,000,000
CCTV Inspection Program	2,800,000	1,300,000	750,000	4,850,000
Mole Creek Water Supply	307,000	1,273,000	3,000,000	4,580,000
Dam Safety Program of Works - Compliance Reports	2,650,000	1,431,000	176,000	4,257,000
Dam Safety Program of Improvement Works	308,000	1,600,000	2,260,000	4,168,000
Lake Mikany Dam Safety Upgrade	847,000	1,600,000	1,510,000	3,957,000
Fluoride Program	3,873,000	-	-	3,873,000
Fencing and Site Security	399,000	641,000	2,409,000	3,449,000
Winnaleah Treated Water Supply	382,000	3,009,000	-	3,391,000
Longford Water Supply System (Railway Bridge - Mountford Farm) Trunk Main	167,000	2,200,000	950,000	3,317,000
Miscellaneous Minor Works	1,867,000	1,223,000	-	3,090,000
Cambridge Wet Weather Emergency Storage & Plant Process Improvements	3,000	10,000	3,000,000	3,013,000
Avoca Full Treated Water Supply	359,000	2,646,000	-	3,005,000
Ti Tree Bend - Digester	155,000	1,255,000	1,450,000	2,860,000
Asset Safety Rectification Program - Unplanned	1,761,000	1,000,000	-	2,761,000
Kingston Sewer Pump Station E Rising Main	-	1,000,000	1,700,000	2,700,000
Rosebery Sewer Treatment Plant - New Plant	2,605,000	93,000	-	2,698,000
Reservoir Renewal/Upgrade Program	586,000	1,388,000	710,000	2,684,000
Huonville Main Road Sewer Pump Station Replacement	120,000	255,000	2,285,000	2,660,000
Burnie Sewer Treatment Plant Upgrade	265,000	1,664,000	600,000	2,529,000
Northern Midlands Sewerage Improvement Plan	91,000	212,000	2,165,000	2,468,000
Combined System Program	-	1,140,000	1,080,000	2,220,000
Ti Tree Bend Sewer Treatment Plant Biosolids Dewatering Facility	-	100,000	2,000,000	2,100,000
Girdlestone Reservoir Rectification	47,000	1,173,000	850,000	2,070,000
Charles Street Office (Improvements & Equipment)	2,037,000	23,000	-	2,060,000
Wynyard Sewer Treatment Plant - Dedicated By Pass Line	8,000	186,000	1,800,000	1,994,000
Prince of Wales Primary Digester Roof Replacement	5,000	59,000	1,845,000	1,909,000
Swansea (Meredith) Dam – Rectification and Improvement Project (Stage 2)	-	345,000	1,500,000	1,845,000
North West Office Relocation	695,000	1,143,000	-	1,838,000
Inflow and Infiltration Rectification Program	758,000	500,000	500,000	1,758,000
Burnie Cam Pipeline Construction	566,000	91,000	1,100,000	1,757,000
Bryn Estyn Permanent installation of carbon filter	1,446,000	290,000	-	1,736,000
LSIP - Concept	1,288,000	392,000	-	1,680,000
Ambient Monitoring	-	-	1,650,000	1,650,000
St Helens Sewer Treatment Plant Inlet Works & Esplanade Sewer Pump Station	92,000	602,000	911,000	1,605,000
Electrical Assets Condition Assessment	1,096,000	500,000	-	1,596,000
Consolidated OH&S Upgrades - Planned	1,481,000	109,000	-	1,590,000
Ridgeway Dam - Upgrade Post Tensioned Anchors	500,000	400,000	650,000	1,550,000
Davis St, Smithton Sewer Pump Station Upgrade	96,000	156,000	1,250,000	1,502,000
Environmental Management and Sustainability Program	850,000	600,000	-	1,450,000
Burnie Network Upgrades	1,353,000	52,000	-	1,405,000
Northern Midlands Sewerage Improvement Plan (NMSIP) - Planning	1,350,000	-	-	1,350,000
Prince of Wales Belt Press replacement	33,000	1,165,000	-	1,198,000
Launceston Sewer Improvement Program	782,000	252,000	120,000	1,154,000
Torren St, Richmond Sewer Pump Station Renewal	11,000	959,000	94,000	1,064,000
Swansea (Meredith) Dam – Rectification and Improvement Project (Stage 1)	35,000	370,000	600,000	1,005,000
National Park, Westerway, Fentonbury Water Supply	-	-	1,000,000	1,000,000
Orford Sewer Treatment Plant Outfall Upgrade	896,000	80,000	-	976,000
Pardoe Sewer Treatment Plant - Belt Press Upgrade	935,000	25,000	-	960,000

Backflow Prevention Installation at various STP's and SPS's	-	-	950,000	950,000
Legerwood - Ringarooma Treated Water Pipeline	930,000	-	-	930,000
Cradle Valley STP Membrane Renewal	-	-	900,000	900,000
National Park Fluoride & Chlorine Building Rebuild	-	-	900,000	900,000
Jetty Road, Bicheno Sewer Pump Station Upgrade	-	587,000	291,000	878,000
Other	-	200,000	600,000	800,000
Sewer Treatment Plant AS4024 Machine Safety Audit and Upgrade	287,000	250,000	250,000	787,000
Asset Condition Inspection and data improvement program	113,000	324,000	337,000	774,000
Bridport Sewer Treatment Plant Improvement Program	677,000	82,000	-	759,000
Cameron Bay Digester #3 Cleanout & Roof Replacement	738,000	5,000	-	743,000
Fire hydrant condition assessment	-	-	700,000	700,000
Minor Plant and Equipment	617,000	-	-	617,000
Carrick Sewer Treatment Plant - Upgrade Works and Outfall Pipeline	-	300,000	300,000	600,000
Unplanned State Wide Meter Renewals	-	500,000	-	500,000
Orford Water Treatment Plant renewal	22,000	456,000	-	478,000
Sewerage Pump Station Fall Prevention and Lightweight Lids	282,000	168,000	-	450,000
Cameron Bay Belt Press replacement	15,000	182,000	250,000	447,000
Mole Creek Reticulation Network Improvements	-	436,000	-	436,000
Wynyard Sewer Treatment Plant Sludge Drying Facility	2,000	402,000	-	404,000
Brighton Sewer Treatment Plant Upgrade	259,000	30,000	100,000	389,000
Digester Vacuum-Pressure Relief Valve Upgrade	-	-	350,000	350,000
Bothwell Water Treatment Plant upgrades	-	200,000	130,000	330,000
Port Sorell Reservoir & Network Upgrades	-	-	300,000	300,000
Flagstaff Gully - Dam Safety Upgrade	-	-	300,000	300,000
Westbury Sewer Treatment Plant Upgrade and Reuse	9,000	-	250,000	259,000
Lauderdale Pressure Sewage Scheme (LPSS) - Electrical Investigations	-	125,000	110,000	235,000
Lake Isandula - Increase spillway capacity	-	-	200,000	200,000
Orford Lower Prosser Dam Storage Works	-	-	200,000	200,000
Pet Dam Safety Upgrade	-	50,000	100,000	150,000
Deloraine Water Treatment Plant – DAFF Cell Replacement	13,000	122,000	-	135,000
Orford Sewage Pump Stations & Network Upgrade	120,000	12,000	-	132,000
Triabunna Water Supply Reticulation Reservoir Project	3,000	-	100,000	103,000
Forth River Major Upgrade / Replacement (reduced $25 million)	-	-	101,340	101,340
Jason St SPS and Esplanade SPS Rising Main Replacements (St Helens)	-	-	100,000	100,000
Windsor Park SPS Rising Main Replacement and Pump Upgrade	-	-	100,000	100,000
Legana Sewer Treatment Plant Upgrade	-	-	100,000	100,000
Sorell, Midway Point Strategy	-	-	100,000	100,000
Kingborough Sewerage Strategy - Treatment	-	-	100,000	100,000
Water Main Renewals Program	-	-	100,000	100,000
Coles Beach SPS Upgrade	-	96,000	-	96,000
Bronte Park Water Meter Installation	-	80,000	-	80,000
Rocherlea Redevelopment	-	59,000	-	59,000
Smithton retic Odour Control	-	-	50,000	50,000
Old Beach No 1 (Green Point Strategy)	48,000	-	-	48,000
Willis St Pump Station Upgrade	45,000	-	-	45,000
Total	**130,877,000**	**121,805,000**	**133,697,340**	**386,379,340**

Source: Doc081 TasWater PSP Pricing Model - TasWater Asset Lives work for depreciation 25 May 2017 (TAB Capex split)

APPENDIX 8 - TasWater's Capex projects for the Third Regulatory Period

Project / Program Name	2018-19	2019-20	2020-21	TOTAL
Bryn Estyn Major Upgrade / Replacement (updated same cost)	5,921,906	6,307,195	96,201,588	108,430,689
Forth River Major Upgrade / Replacement (reduced $25 million)	3,910,137	45,934,031	22,697,825	72,541,993
Kingborough Sewerage Strategy - Treatment & Network	24,604,369	2,602,718	-	27,207,087
Pardoe Sewer Improvement Plan	532,500	9,610,046	14,557,254	24,699,800
Northern Midlands Sewerage Improvement Plan - Longford STP Upgrade	2,986,104	20,290,818	1,006,039	24,282,961
Non-network other	4,685,999	4,368,203	4,479,155	13,533,357
Sewer Treatment Plant Renewal Program	3,859,559	3,870,228	3,932,698	11,662,485
Minor Projects Program	4,259,999	3,494,562	3,583,324	11,337,885
SCADA Program	3,376,049	2,904,855	2,956,242	9,237,146
Pet Dam	3,727,499	4,001,711	-	7,729,210
Non-network IT	2,129,999	2,620,922	2,687,493	7,438,414
Metering Program	3,589,049	1,638,076	1,679,683	6,906,808
Dams - Minor CAPEX	2,129,999	2,184,101	2,239,578	6,553,678
Electrical Program	2,317,439	1,546,344	2,364,994	6,228,777
Proactive Asset Management - Renewals	2,026,268	2,031,870	2,064,667	6,122,805
Lake Mikany	6,076,096	-	-	6,076,096
Sewers Proactive Asset Management - Renewals	1,946,649	1,952,062	1,981,578	5,880,290
Water Treatment Plant Renewal Program	1,934,039	1,939,482	1,970,828	5,844,350
Flagstaff	5,218,499	-	-	5,218,499
Cambridge Wet Weather Emergency Storage & Plant Process Improvements	3,780,749	1,092,051	-	4,872,800
System optimisation - Water	4,205,781	-	-	4,205,781
Dams - Compliance Reporting	1,278,000	1,310,461	1,343,747	3,932,207
Rocky Creek WTP	3,677,880	-	-	3,677,880
Asset Safety Rectification Program - Unplanned	1,158,720	1,161,942	1,182,497	3,503,159
Upper Reservoir	3,484,679	-	-	3,484,679
SPSs Proactive Asset Management - Renewals	734,765	1,301,375	1,324,397	3,360,536
Swansea - Stage 2	3,194,999	-	-	3,194,999
Cambridge Optimisation	3,154,335	-	-	3,154,335
CCTV Inspection Program	969,150	971,925	985,414	2,926,489
Combined System Program	877,560	882,377	895,831	2,655,768
Inflow and Infiltration Rectification Program	852,000	873,641	895,831	2,621,471
Reactive Asset Management - Renewals	810,507	812,748	825,867	2,449,122
St Marys Reuse Upgrade	1,295,024	1,150,862	-	2,445,885
Geeveston Optimisation	262,861	1,617,228	552,768	2,432,858
Reservoir Renewal/Upgrade Program	579,360	585,339	1,182,497	2,347,196
STPs Optimisation (various) Program	2,260,607	-	-	2,260,607
Turriff Lodge Optimisation	525,723	1,617,228	-	2,142,950
Lake Isandula	106,500	1,965,691	-	2,072,191
Westbury Sewer Treatment Plant Upgrade and Reuse	269,797	1,715,226	-	1,985,023
Sewers Reactive Asset Management - Renewals	625,709	627,449	636,936	1,890,093
Rocherlea Redevelopment	532,500	1,310,461	-	1,842,961
Cornwall water supply system	1,840,029	-	-	1,840,029
Ambient Monitoring	426,000	436,820	895,831	1,758,651
Fireplug condition assessment	426,000	436,820	447,916	1,310,736
Gormanston water supply system	1,288,020	-	-	1,288,020
Blackman River Dam No 1	1,278,000	-	-	1,278,000
Sheffield Optimisation	1,261,734	-	-	1,261,734
Sewers Reactive Asset Management - Maintenance	417,139	418,299	424,624	1,260,062
Proactive Asset Management - L1, 2 Condition Assessment	405,254	406,374	412,933	1,224,561
Epping Water supply system	1,214,419	-	-	1,214,419
Coles Bay Dam	1,107,600	-	-	1,107,600
Launceston Sewer Improvement Program (LSIP)	-	-	1,105,537	1,105,537
Sewers Proactive Asset Management - CCTV	364,997	366,012	371,546	1,102,554
SPSs Reactive Asset Management - Renewals	236,174	418,299	425,699	1,080,172
Ti Tree Bend - Digester	1,079,186	-	-	1,079,186
Jason St SPS and Esplanade SPS Rising Main Replacements (St Helens)	1,079,186	-	-	1,079,186
Windsor Park SPS Rising Main Replacement and Pump Upgrade	1,079,186	-	-	1,079,186
King Island solution	1,079,186	-	-	1,079,186
Sewer Treatment Plant AS4024 Machine Safety Audit and Upgrade	532,500	546,025	-	1,078,525
Chlorination Upgrade (Various Sites)	532,500	546,025	-	1,078,525
Ulverstone Optimisation	841,156	215,630	-	1,056,787
Conglomerate Creek	1,051,445	-	-	1,051,445
Reactive Asset Management - Maintenance	347,360	348,320	353,943	1,049,624
Herrick water supply system	993,616	-	-	993,616
Miscellaneous Minor Works	319,500	327,615	335,937	983,052
Selfs Point Optimisation	841,156	-	-	841,156
Proactive Asset Management - L3 Condition assessment	270,169	270,916	275,289	816,374
SPSs Reactive Asset Management - Maintenance	157,450	278,866	283,799	720,115
Woodbridge Sewer Treatment Plant Upgrade - Stage 2	-	44,796	643,070	687,865
Stock Route (South) Sewer Pump Station (Cressy)	-	647,360	-	647,360
Lower Prosser	639,000	-	-	639,000
SPSs Proactive Asset Management - L1, 2 Condition Assessment	137,768	244,008	248,324	630,101
Burnie Cam Pipeline Construction	608,510	-	-	608,510

Lower Reservoir	485,640	-	-	485,640
Sewers Proactive Asset Management - L3 Condition assessment	121,666	122,004	123,849	367,518
Bothwell Major Upgrade / Replacement	-	-	309,047	309,047
Wynyard Optimisation	210,289	-	-	210,289
SPSs Proactive Asset Management - L3 Condition assessment	45,923	81,336	82,775	210,034
George Town Optimisation	194,517	-	-	194,517
South Esk Disinfection Project	-	159,477	-	159,477
Ridgeway Upgrade	-	127,653	-	127,653
Mountain River water supply system	111,453	-	-	111,453
Longford Disinfection Project	110,489	-	-	110,489
Norwood Optimisation	105,145	-	-	105,145
Prospect Vale Optimisation	105,145	-	-	105,145
Pardoe Optimisation	78,858	-	-	78,858
Smithton retic Odour Control	-	-	56,735	56,735
Deloraine Disinfection Project	-	-	50,855	50,855
Manuka River (Strahan) Disinfection Project	34,347	-	-	34,347
Dover Disinfection Project	29,879	-	-	29,879
POW Bay Optimisation	5,257	-	-	5,257
Totals	**143,362,210**	**142,735,881**	**181,076,438**	**467,174,530**

Source: Doc081 TasWater PSP Pricing Model - TasWater Asset Lives work for depreciation 25 May 2017 (TAB Capex split)

APPENDIX 9 - Equivalent Tenements - Comparison of Rates for the Second and Third Regulatory Periods

User category/ end use code	Property type	ET per unit	Unit	ET per unit	Unit	Description of proposed change
		2015-18 (current)		2018-21 (proposed)		
RE00	Unconnected serviced land (ie undeveloped vacant land)	0.6	lot	0.6	lot	
RE	Standard occupancy					
RE01	Single residential dwelling (includes houses, units, flats, apartments and granny flats)	1.0	dwelling	1.0	dwelling	
RE01	All other residential properties	1.0	dwelling	1.0	dwelling	
AP	Accommodation (permanent)					
AP01	Nursing home/special care home	0.45	bed	0.45	bed	
AP02	Self-care retirement units/villas	1.0	dwelling	1.0	dwelling	
AP03	Self-care retirement – serviced unit (on-site)	1.0	dwelling	1.0	dwelling	
AP04	Self-care retirement – serviced unit (off-site)	1.0	dwelling	1.0	dwelling	
AP05	Boarding house	0.5	bed	0.5	bed	No change - 0.45 in proposed price and service plan (similar load expected to AP01 Nursing home/special care home), but subsequently amended to 0.5 to align with the NSW Water Directorate's 2017 *Section 64 Determinations of Equivalent Tenements Guidelines*

User category/end use code	Property type	ET per unit	Unit	ET per unit	Unit	Description of proposed change
		2015-18 (actual)		2018-21 (proposed)		
AS	Accommodation (short-term)					
AS01	Caravan park – caravan/cabin/camping sites, including long-term sites Previous year Q3 to current year Q3 annual water consumption measured by the property/site water meter, multiplied by the discharge factor, divided by the average annual residential water consumption, where: • discharge factor is 0.75; and • average annual residential water consumption for the preceding financial year is based on TasWater's most recent annual performance report	Q3 to Q3 0.75	annual water consumption discharge factor	Q3 to Q3 0.75	annual water consumption discharge factor	
AS01	Caravan park (alternative method) – caravan/cabin/camping sites, including long-term sites Applies where previous year Q3 to current year Q3 annual water consumption data is not available On application, direct measurement of sewage flow may be considered. Customers pay the costs of supply and installation of meters and meters must meet TasWater's requirements	0.45 0.5	site toilet/shower in separate toilet block	0.45 0.5	site toilet/shower in separate toilet block	
AS02	Bed and breakfast/guest house	0.45	room	0.45	room	
AS03	Services – motel/hotel/resort room – medium density	0.45	room	0.45	room	No change - TasWater suggested that hotel usage may be more accurately measured using a discharge factor, as for AS01 Caravan park and as proposed for BE04 Office
AS04	Services – motel/hotel/resort room – high density	0.45	room	0.45	room	As above
AS05	Backpackers/hostel	0.23	bed	0.23	bed	
ASO6	Serviced/unserviced apartments	1.0	dwelling	0.45	room	Currently equated to RE01 Single residential dwelling, change to reflect AS03 Services - motel/hotel/resort room - medium density, as similar load expected

User category/end use code	Property type	ET per unit	Unit	ET per unit	Unit	Description of proposed change
		2015-18 (current)		2018-21 (proposed)		
AM	**Accommodation (medical care)**					
AM01	Hospital	0.971	bed	0.971	bed	
AM02	Hostel (medical)	0.971	bed	0.971	bed	
BE	**Business (excluding food preparation)**					
BE01	Single retail shop	0.003	gross building floor area (GBFA) (M^2)	0.003	GBFA (M^2)	
BE02	Supermarket	0.003	GBFA (M^2)	0.003	GBFA (M^2)	Trade waste load has been removed
BE03	Shopping centre	0.002	GBFA (M^2)	0.002	GBFA (M^2)	Trade waste load has been removed
BE04	Office	0.006	GBFA (M^2)	Q3 to Q3 0.95	annual water consumption discharge factor	Alternative method in response to customer feedback: Previous year Q3 to current year Q3 annual water consumption measured by the property/site water meter, multiplied by the discharge factor, divided by the average annual residential water consumption, where: • discharge factor is 0.95; and • average annual residential water consumption for the preceding financial year is year based on TasWater's most recent annual performance report
BE04	Office (alternative method) – Applies where previous year Q3 to current year Q3 annual water consumption data is not available, for example for multi-use, single meter connections	0.006	GBFA (M^2)	0.006	GBFA (M^2)	
BE05	Hairdresser/beauty salon*	0.8	basin	0.79	basin	Decrease - 0.8 in proposed price and service plan, but subsequently amended to 0.79 to align with NSW Guidelines
BE06	Laundromat*	0.7	machine	0.71	machine	Increase - 0.7 in proposed price and service plan, but subsequently amended to 0.71 to align with NSW Guidelines

* Trade waste ET to be subtracted from total assessment to account for trade waste charges

User category/end use code	Property type	ET per unit	Unit	ET per unit	Unit	Description of proposed change
		2015-18 (current)		2018-21 (proposed)		
BE	**Business (excluding food preparation) (continued)**					
BE07	Medical centre	0.6	consulting room	0.63	consulting room	Increase - 0.6 in proposed price and service plan, but subsequently amended to 0.63 to align with NSW Guidelines
BE08	Service station	0.9	lane	0.9	lane	
BE09	Car wash (wand wash)	0.5	wand	0.6	toilet/shower	From wand to toilet/shower, as load expected to be predominately trade waste
BE10	Car wash (drive through)	1.0	lane	0.6	toilet/shower	From lane to toilet/shower, as load expected to be predominately trade waste
BE11	Animal boarding	0.075	kennel	0.075	kennel	
		0.006	GBFA (M^2) office space	0.006	floor area office (M^2)	
BE13	Airport	case-by-case[#]	case-by-case	case-by-case	case-by-case	
BE14	Nursery	0.003	GBFA (M^2)	0.6	toilet/shower	From GBFA (M^2) to toilet/shower, as water use expected to be predominately outdoor (to plants)
MP	**Meal preparation**					
MP01	Restaurant/café	0.008	GBFA (M^2)	0.008	GBFA (M^2)	
MP02	Take away/fast food no public amenities	0.008	GBFA (M^2)	0.008	GBFA (M^2)	
MP03	Take away/fast food including public amenities	0.016	GBFA (M^2)	0.016	GBFA (M^2)	
MP04	Catering	0.008	GBFA (M^2)	0.008	GBFA (M^2)	
FM	**Food manufacture**					
FM01	Meat – abattoir/smallgoods	0.008	GBFA (M^2)	0.6 0.003	toilet/shower floor area office and staff rooms (M^2)	From GBFA (M^2) to toilet/shower plus floor area office and staff rooms (M^2), as significant trade waste load and likely double counting for GBFA (M^2)
FM02	Dairy – milk	0.008	GBFA (M^2)	0.6 0.003	toilet/shower floor area office and staff rooms (M^2)	As above

[#] case-by-case – individual assessment based on specific identified multiple uses, similar to ET00

User category/end use code	Property type	ET per unit	Unit	ET per unit	Unit	Description of proposed change
		2015-18 (current)		2018-21 (proposed)		
FM		Food manufacture (continued)				
FM03	Dairy – cheese, butter, yoghurt	0.008	GBFA (M^2)	0.60 0.003	toilet/shower floor area office and staff rooms (M^2)	From GBFA (M^2) to toilet/shower plus floor area office and staff rooms (M^2), as significant trade waste load and likely double counting for GBFA (M^2)
FM04	Dairy – ice cream	0.008	GBFA (M^2)	0.60 0.003	toilet/shower floor area office and staff rooms (M^2)	As above
FM05	Grain – flour milling/bakery	0.008	GBFA (M^2)	0.60 0.003	toilet/shower floor area office and staff rooms (M^2)	As above
FM06	Grain – biscuits and cakes	0.008	GBFA (M^2)	0.60 0.003	toilet/shower floor area office and staff rooms (M^2)	As above
FM07	Beverages – beer	0.008	GBFA (M^2)	0.60 0.003	toilet/shower floor area office and staff rooms (M^2)	As above
FM08	Beverages – soft drinks and cordials	0.008	GBFA (M^2)	0.60 0.003	toilet/shower floor area office and staff rooms (M^2)	As above
FM09	Other – eg confectionery	0.008	GBFA (M^2)	0.60 0.003	toilet/shower floor area office and staff rooms (M^2)	As above

User category/end use code	Property type	ET per unit	Unit	ET per unit	Unit	Description of proposed change
		2015-18 (current)		2018-21 (proposed)		
TL	Textile and leather					
TL01	Wool – wool scour	0.004	GBFA (M^2)	0.6	toilet/shower	GBFA (M^2) and toilet/shower in proposed price and service plan, but GBFA (M^2) subsequently removed
TL02	Wool – felt and carpet, dyeing and spinning	0.004	GBFA (M^2)	0.6	toilet/shower	As above
MM	Metal processing and manufacturing (2015-18)/Other Industrial, metal processing and manufacturing (2018-21)					
MM01	Factory/workshop/warehouse	0.6	toilet/shower	0.6	toilet/shower	
MM02	Metal finishing – electroplating, anodising, galvanising	0.6	toilet/shower	0.6	toilet/shower	
MM03	Engineering – machine shops, sheet metal, foundry, extrusion	0.6	toilet/shower	0.6	toilet/shower	
MM04	Engineering – rolling	0.6	toilet/shower	0.6	toilet/shower	
MM05	Manufacturing – concrete products	0.6	toilet/shower	0.6	toilet/shower	
SL	Services					
SL01	Services – laboratories	0.01	GBFA (M^2)	0.01	GBFA (M^2)	
SL02	Services – laundries - industrial	0.006	GBFA (M^2)	0.006	GBFA (M^2)	
EF	Entertainment					
EF01	Licensed club	0.008	GBFA (M^2)	0.008	GBFA (M^2)	
EF02	Pub/bar	0.008	GBFA (M^2)	0.008	GBFA (M^2)	
		0.45	accommodation	0.45	accommodation	
EF03	Cinema/theatre/pubic entertainment	0.014	visitor	0.014	visitor	
EF04	Conference centre	0.014	visitor	0.014	visitor	
EF05	Marina	0.008	GBFA (M^2)	0.008	floor area club/function/ meeting rooms (M^2)	Expanded description of unit to reflect likely waste water generation rather than berths (as in NSW Guidelines) or GBFA

User category/end use code	Property type	ET per unit	Unit	ET per unit	Unit	Description of proposed change
		2015-18 (current)		2018-21 (proposed)		
SF	Sporting/spectator facilities					
SF01	Sports stadium	0.6	0.6 per amenity plus 0.008 per M^2 clubrooms (GBFA)	0.6 0.008	0.6 per amenity plus 0.008 floor area club/function/meeting rooms (M^2)	Expanded description of unit
SF02	Amenities and indoor facilities	0.6	0.6per amenity plus 0.008 per M^2 clubrooms (GBFA)	0.6 0.008	0.6 per amenity plus 0.008 floor area club/function/meeting rooms (M^2)	Expanded description of unit
SF03	Hockey field – artificial surface	0.008	GBFA (M^2)	0.6 0.008	0.6 per amenity plus 0.008 floor area club/function/meeting rooms (M^2)	Expanded description of unit
SF04	Sports ground irrigated area	0.6	shower	0.6	shower	
		0.6	toilet	0.6	toilet	
SF05	Bowling alley	0.55	lane	0.55	lane	
SF06	Bowling green	0.008	GBFA (M^2)	0.6 0.008	0.6 per amenity plus 0.008 floor area club/function/meeting rooms (M^2)	Expanded description of unit
SF07	Swimming pool – indoor/outdoor	case-by-case	case-by-case	case-by-case	case-by-case	
SF08	Gymnasium	0.6	amenities	0.6	shower/toilet	Expended description of unit

User category/end use code	Property type	ET per unit	Unit	ET per unit	Unit	Description of proposed change
		2015-18 (current)		2018-21 (proposed)		
CF				Community facilities		
CF01	Child care centre/pre school	0.057	child	0.05	child	Decrease - 0.057 in proposed price and service plan, but subsequently amended to 0.05 to align with CF02 Education – school (primary, secondary, college)
CF02	Education – school (primary, secondary, college)	0.057	student	0.05	student	Inclusion of 'college' (was previously included under CF03) ie no change to rate or basis Trade waste load has been removed Decrease - 0.057 in proposed price and service plan, but subsequently amended to 0.05 to align with NSW Water Directorate's 2017 Guidelines
CF03	Education – TAFE/university (tertiary)	0.057	student	0.02	student	See CF02 above, 'college' removed Trade waste load has been removed Decrease - 0.024 in proposed price and service plan, but subsequently amended to 0.02 to align with NSW Water Directorate's 2017 Guidelines Loading for tertiary expected to be lower than secondary as food preparation generally considered separately
CF04	Correction centre	0.75	person	0.75	person	
CF05	Church/place of worship	0.003	GBFA (M^2)	0.60 0.008	0.6 per amenity and if kitchen, 0.008 floor area function/meeting rooms (M^2)	From GBFA (M^2) to public amenity and if kitchen, floor area of function/meeting rooms
CF06	Community centre/hall	0.003	GBFA (M^2)	0.60 0.008	0.6 per amenity and if kitchen, 0.008 floor area function/meeting rooms (M^2)	From GBFA (M^2) to public amenity and if kitchen, floor area of function/meeting rooms
CF07	Parks/gardens/reserves	0.6	shower/toilet	0.60	amenity	Minor change to description of unit
CF08	Public amenities (per shower)	0.6	shower	0.60	shower	
CF09	Public amenities (per toilet)	0.6	toilet	0.60	toilet	

User category/end use code	Property type	ET per unit	Unit	ET per unit	Unit	Description of proposed change
		2015-18 (current)		2018-21 (proposed)		
			Other			
CP00	Telstra/Aurora/Council – properties that do not have any sewerage facilities (eg exchanges, substations and roundabouts/parks that do not have any buildings or small pieces of land) (may include private parcels that have no likelihood of future development)	null	null	null	null	
CP01	Telstra/TasNetworks/Council – properties that have sewer facilities (eg exchanges, substations and roundabouts/parks that have small buildings as well). Bigger buildings to be assessed per M^2 under the Office code (BE04)	1.0	default 1.0	1.0	default 1.0	
ET00	Mixed use, a generic code for properties which might have multiple use, such as multiple use free hold titles	case-by-case	case-by-case	case-by-case	case-by-case	
MH01	Motor home dump points (located outside caravan parks)	1.0	default 1.0	1	default 1.0	
NR01	Non-residential property with a water connection and no sewer connection (not within serviced land)	null	null	null	null	Decrease for STED scheme customers from 0.9 to 0.7 per unit to account for increased cost to owners of desludging their septic tank every three years
NULL	Properties with no sewer connection	null	null	null	null	As above
RU01	Residential property with a water connection and no sewer connection (not within serviced land)	null	null	null	null	As above

APPENDIX 10 - Equivalent Tenements - Departures from the NSW Water Directorate's Section 64 Determinations of Equivalent Tenements Guidelines

End use code	Property type	Standard unit(s)	NSW Water Directorate's approach 2017 (ET per unit)	TasWater's proposed approach 2018-21 (ET per unit)	TasWater's justification for proposed departure from NSW approach
RE	Standard occupancy				
RE01	All other residential properties (other than single residential dwelling)	room dwelling	Multi-residential lots (medium density 1-2 storey) and multi-residential lots (high density), where: • 1 bedroom 0.5 • 2 bedroom 0.75 • 3 bedroom 1.0	1.0 dwelling	Insufficient data to apply differential rates
AP	Accommodation (permanent)				
AP01	Nursing home/special care home	bed	0.75	0.45	Based on customer feedback
AP02	Self-care retirement units/villas	dwelling	Residential unit single (1.0) and multi (see RE01)	1.0	Aligned with RE01 (residential properties) as data insufficient
AP03	Self-care retirement – serviced unit (on-site)	bed dwelling	Nursing home (0.75 bed)	1.0 dwelling	As above
AP04	Self-care retirement – serviced unit (off-site)	bed dwelling	0.45 bed	1.0 dwelling	As above

End use code	Property type	Standard unit(s)	NSW Water Directorate's approach 2017 (ET per unit)	TasWater's proposed approach 2018-21 (ET per unit)	TasWater's justification for proposed departure from NSW approach
AS	Accommodation (short-term)				
AS01	Caravan park – caravan/cabin/camping sites, including long-term sites	site discharge factor and annual water consumption	0.63 site	Previous year Q3 to current year Q3 annual water consumption measured by the property/site water meter, multiplied by the discharge factor, divided by the average annual residential water consumption, where: • discharge factor is 0.75; and • average annual residential water consumption for the preceding financial year is based on TasWater's most recent annual performance report	Based on customer feedback Required by the Tasmanian Economic Regulator for the second regulatory period (2015-18)
AS01	Caravan park (alternative method) – caravan/cabin/ camping sites, including long-term sites Applies where previous year Q3 to current year Q3 annual water consumption data is not available	site amenity	0.63 site	0.45 site 0.5 toilet/shower in separate toilet block	Based on customer feedback
AS02	Bed and breakfast/guest house	room	0.5	0.45	Reflective of local conditions
AS06	Serviced/unserviced apartments	dwelling room	Multi-residential (high density) (see RE01) dwelling	0.45 room	As for AS04 Services – motel/hotel/resort room – high density, as demand likely to be similar

End use code	Property type	Standard unit(s)	NSW Water Directorate's approach 2017 (ET per unit)	TasWater's proposed approach 2018-21 (ET per unit)	TasWater's justification for proposed departure from NSW approach
AM	Accommodation (medical care)				
AM01	Hospital	bed	1.43	0.971	Based on Water Services Association Australia (WSAA) Sewerage Code as more reflective of local conditions
AM02	Hostel (medical)	bed	1.11	0.971	As above
BE	Business (excluding food preparation)				
BE01	Single retail shop	Gross Building Floor Area (GBFA) (M^2)	0.01	0.003	Retained previous rate for customer consistency, based on NSW Water Directorate's 2009 *Section 64 Determinations of Equivalent Tenements Guidelines*
BE03	Shopping centre	GBFA (M^2)	Insufficient data, consider amenities, food preparation and specific businesses separately	0.002	Based on WSAA Sewerage Code and TasWater supplementary information
BE04	Office	GBFA (M^2) discharge factor and annual water consumption	0.01 GBFA (M^2)	Previous year Q3 to current year Q3 annual water consumption measured by the property/site water meter, multiplied by the discharge factor, divided by the average annual residential water consumption, where: • discharge factor is 0.95; and • average annual residential water consumption for the preceding financial year is year based on TasWater's most recent annual performance report	Based on customer feedback Discharge methodology based on the approach for AS01 Caravan park and the NSW Water Directorate's 2017 *Section 64 Determinations of Equivalent Tenements Guidelines*

End use code	Property type	Standard unit(s)	NSW Water Directorate's approach 2017 (ET per unit)	TasWater's proposed approach 2018-21 (ET per unit)	TasWater's justification for proposed departure from NSW approach
BE	**Business (excluding food preparation) (continued)**				
BE04	Office (alternative method) Applies where previous year Q3 to current year Q3 annual water consumption data is not available, for example for multi-use, single meter connections	GBFA (M^2)	0.01	0.006	Retained previous rate for customer consistency, based on NSW Water Directorate's 2009 Guidelines
BE09	Car wash (wand wash)	bay/lane toilet/shower	9.03 bay/lane	0.6 toilet/shower	Load expected to be predominately trade waste, unless a toilet/shower on site
BE10	Car wash (drive through)	bay/lane toilet/shower	9.03 bay/lane	0.6 toilet/shower	As above
BE11	Animal boarding	case-by-case[#] kennel floor area (M^2)	Insufficient data, consider case-by-case	0.075 kennel 0.006 floor area office (M^2)	Based on local assessment
BE13	Airport	case-by-case	Not covered	case-by-case	Based on local assessment
BE14	Nursery	case-by-case toilet/shower	Insufficient data, consider case-by-case	0.6 toilet/shower	Water use expected to be predominately outdoor (to plants)
MP	**Meal preparation**				
MP01	Restaurant/café	GBFA (M^2)	0.01	0.008	Figure adjusted to account for trade waste
MP02	Takeaway/fast food no public amenities	GBFA (M^2)	0.02	0.008	As above
MP03	Takeaway/fast food including public amenities	GBFA (M^2)	0.05	0.016	As above
MP04	Catering	GBFA (M^2)	0.02	0.008	As above
FM	**Food manufacture**				
FM01 – FM09	Food manufacture	toilet/shower floor area (M^2)	Not specifically covered	0.6 toilet/shower 0.003 floor area office and staff rooms (M^2)	Reflective of sewerage demand NSW Guidelines are used to calculate the total load, including trade waste Customers typically have a significant trade waste demand

[#] case-by-case – individual assessment based on specific identified multiple uses, similar to ET00

End use code	Property type	Standard unit(s)	NSW Water Directorate's approach 2017 (ET per unit)	TasWater's proposed approach 2018-21 (ET per unit)	TasWater's justification for proposed departure from NSW approach
TL	Textile and leather				
TL01 – TL02	Textile and leather	toilet/shower	Not specifically covered	0.6	Reflective of sewerage demand, given the likely trade waste load NSW Guidelines are used to calculate the total load, including trade waste
MM	Other Industrial, metal processing and manufacturing				
MM01	Factory/workshop/warehouse	toilet/shower	Not specifically covered	0.6	Reflective of sewerage demand NSW Guidelines are used to calculate the total load, including trade waste
MM02	Metal finishing – electroplating, anodizing, galvanizing	toilet/shower	Not specifically covered	0.6	As above
MM03	Engineering – machine shops, sheet metal, foundry, extrusion	toilet/shower	Not specifically covered	0.6	As above
MM04	Engineering – rolling	toilet/shower	Not specifically covered	0.6	As above
MM05	Manufacturing – concrete products	toilet/shower	Not specifically covered	0.6	As above
SL	Services				
SL01	Services – laboratories	GBFA (M^2)	Not specifically covered	0.01	Rate reduced to account for trade waste NSW Guidelines are used to calculate the total load, including trade waste
SL02	Services – laundries - industrial	GBFA (M^2)	Not specifically covered	0.006	As above
EF	Entertainment				
EF01	Licensed club	GBFA (M^2)	Insufficient data, separate into food preparation, entertainment and amenities	0.008	As for EF02 Pub/bar
EF02	Pub/bar	GBFA (M^2) accommodation	0.05 GBFA (M^2)	0.008 GBFA (M^2) 0.45 accommodation	Amended to reflect likely trade waste component Accommodation as for AS03 Services – motel/hotel/resort room – medium density

End use code	Property type	Standard unit(s)	NSW Water Directorate's approach 2017 (ET per unit)	TasWater's proposed approach 2018-21 (ET per unit)	TasWater's justification for proposed departure from NSW approach
EF	Entertainment (continued)				
EF03	Cinema/theatre/public entertainment	visitor	Insufficient data, use food preparation and amenities	0.014	Based on WSAA Sewerage Code and TasWater supplementary information
EF04	Conference centre	visitor	Insufficient data, use food preparation and amenities	0.014	As above
EF05	Marina	berth floor area (M^2)	0.90 berth	0.008 floor area club/function/ meeting rooms (M^2)	More accurate reflection of waste water generation than berths
SF	Sporting/spectator facilities				
SF01	Sports stadium	amenity floor area (M^2)	Not specifically covered	0.6 per amenity plus 0.008 floor area club/function/ meeting rooms (M^2)	Reflective of sewerage demand
SF02	Amenities and indoor facilities	amenity floor area (M^2)	Insufficient data, use food preparation and amenities	0.6 per amenity plus 0.008 floor area club/function/ meeting rooms (M^2)	As above
SF03	Hockey field – artificial surface	case-by-case amenity floor area (M^2)	Insufficient data, consider case-by-case	0.6 per amenity plus 0.008 floor area club/function/ meeting rooms (M^2)	As above
SF04	Sports ground irrigated area	toilet/shower	Not specifically covered	0.6	As above
SF06	Bowling green	toilet/shower floor area (M^2)	Insufficient data, separate into food preparation, amenities and irrigation	0.6 per amenity plus 0.008 floor area club/function/ meeting rooms (M^2)	Reflective of sewerage demand
SF08	Gymnasium	toilet/shower	Not covered	0.6	Reflective of sewerage demand
CF	Community facilities				
CF01	Child care centre/pre-school	person child	0.1 person	0.05 child	Previously 0.057 based on customer feedback, but amended after submission of proposed price and service plan to be consistent with CFO2 Education – school (primary, secondary, college) (which aligns with NSW Water Directorate's 2017 Guidelines)

End use code	Property type	Standard unit(s)	NSW Water Directorate's approach 2017 (ET per unit)	TasWater's proposed approach 2018-21 (ET per unit)	TasWater's justification for proposed departure from NSW approach
CF	Community facilities (continued)				
CF05	Church/place of worship	amenity floor area (M^2)	Insufficient data, use food preparation and amenities	0.6 per amenity and if kitchen, 0.008 floor area function/meeting rooms (M^2)	Reflective of likely demand
CF06	Community centre/hall	amenity floor area (M^2)	Insufficient data, use food preparation and amenities	0.6 per amenity and if kitchen, 0.008 floor area function/meeting rooms (M^2)	As above
CF07	Parks/gardens/reserves	case-by-case amenity	Insufficient data, consider case-by-case	0.6	As above
CF08	Public amenities (per shower)	shower	0.63	0.6	
CF08	Public amenities (per toilet)	toilet	0.63	0.6	
	Other				
CP00	Telstra/Aurora/Council - properties that do not have any sewerage facilities (eg exchanges, substations and roundabouts/ parks that do not have buildings or small pieces of land) (may include private parcels that have no likelihood of future development)		Not covered	null	
CP01	Telstra/Aurora/Council - properties that have sewer facilities (eg exchanges, substation and roundabouts/parks that have small buildings as well), bigger buildings to be assessed per M^2under the Office code (BE04)		Not covered	1.0	As for RE01 Residential dwelling 1.0 is the minimum
ET00	Mixed use, a generic code for properties which might have multiple use, such as multiple use free hold titles		Not covered	case-by-case	
MH01	Motor home dump points (located outside caravan parks)		Not covered	1.0	1. 0 is the minimum
RE00	Unconnected serviced land (ie undeveloped vacant land)	lot	Not covered	0.6	