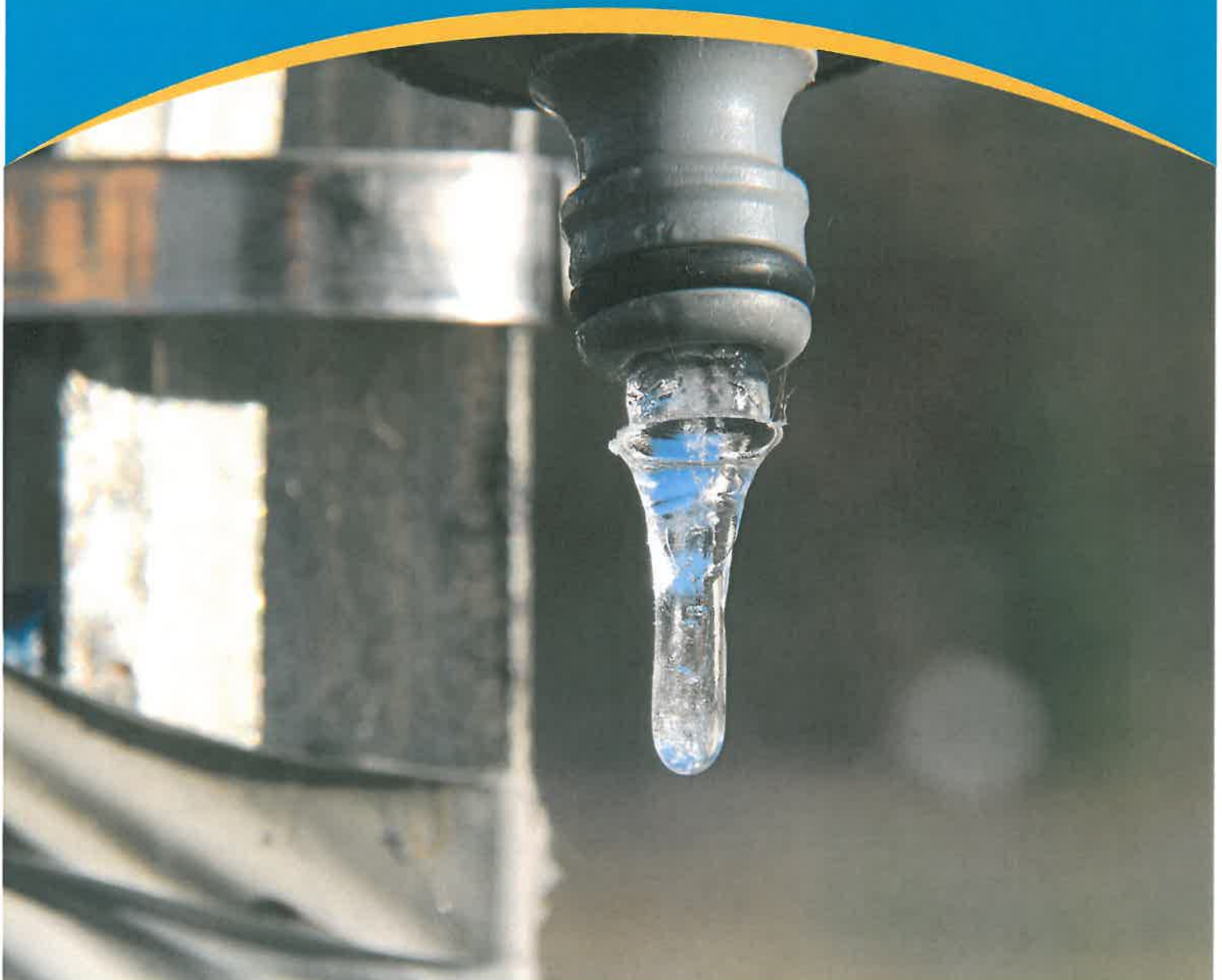




Price and Service Plan

2015-18



Document Approval and Issue Notice

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Table of Contents

EXECUTIVE SUMMARY	1
1. INTRODUCTION.....	3
1.1. About TasWater.....	3
1.2. Corporate Vision, Mission and Values	3
1.3. Geographic area	4
1.4. Corporate governance	5
1.5. Key business activities	6
1.6. Context of submission.....	7
2. CUSTOMER CONSULTATION	12
2.1. General consultation on draft Price and Service Plan.....	12
2.2. Targeted customer and stakeholder consultation.....	14
2.3. Key issues from targeted consultation and customer surveys.....	15
2.4. Consultation undertaken by the Economic Regulator	16
3. REGULATORY OBLIGATIONS	17
3.1. Introduction and overview.....	17
3.2. Industry regulatory obligations	17
3.3. Consultation with regulators	19
4. REVENUE REQUIREMENTS.....	21
4.1. Introduction and Overview	21
4.2. Operating expenditure.....	22
4.3. Capital expenditure	24
4.4. Depreciation	33
4.5. Regulated asset base.....	33
4.6. Return on capital (WACC).....	35
4.7. Asset annuity (for lower revenue limit calculation).....	37
4.8. Lower revenue limit (sustainability)	37
4.9. Upper revenue limit (full cost recovery).....	38
4.10. Statutory revenue limit.....	38
4.11. Forecast revenue	39
5. DEMAND FORECASTING	40
5.1. Summary.....	40
5.2. Key characteristics of customer base.....	40
5.3. Customer classes	42
5.4. Minimum flow rates	43
5.5. Customer growth assumptions.....	44
5.6. Water supply planning framework.....	44
5.7. Water volume forecasts	45
5.8. Sewage volume forecasts	45
5.9. Trade waste forecasts.....	46
5.10. Lot growth forecasts.....	47
5.11. Miscellaneous fees and charges transaction forecasts	49
5.12. Demand management initiatives	49
6. PRICING	50
6.1. Summary.....	50
6.2. Regulatory pricing framework.....	50
6.3. Rationale behind structure of regulated services and tariffs.....	51
6.4. Pricing transition objectives and price constraints	54
6.5. Water charges	54

6.6.	<i>Sewerage tariffs</i>	58
6.7.	<i>Customer transition impacts</i>	62
6.8.	<i>Pricing for different customer classes</i>	67
6.9.	<i>Charges for other regulated services</i>	68
6.10.	<i>Miscellaneous fees and charges</i>	72
6.11.	<i>Unregulated services</i>	73
7.	SERVICE PROVISION	76
7.1.	<i>Serviced Land</i>	76
7.2.	<i>Customer Contract</i>	81
7.3.	<i>Connection Policy</i>	82
7.4.	<i>Service Charge policy</i>	82
7.5.	<i>Water Sub-metering</i>	83
7.6.	<i>Service Extension and Expansion</i>	84
7.7.	<i>Service Introduction</i>	84
7.8.	<i>Developer Charges</i>	86
7.9.	<i>Trade Waste Charges</i>	88
7.10.	<i>Service Replacement</i>	92
7.11.	<i>Complaints, Enquiries and Disputes Management</i>	99
7.12.	<i>Financial Hardship</i>	100
7.13.	<i>Customer Service Standards</i>	100
8.	ATTACHMENTS	105
8.1.	<i>Customer Contract</i>	105
8.2.	<i>Connection Policy</i>	105
8.3.	<i>Service Charges Policy</i>	105
8.4.	<i>Water Sub-metering Policy</i>	105
8.5.	<i>Service Extension and Expansion Policy</i>	105
8.6.	<i>Service Introduction Charges Policy</i>	105
8.7.	<i>Developer Charges Policy</i>	105
8.8.	<i>Trade Waste Charges Policy</i>	105
8.9.	<i>Complaints, Disputes and Enquiries Management Policy</i>	105
8.10.	<i>Financial Hardship Policy</i>	105
8.11.	<i>Schedule of Fees and Charges</i>	105
8.12.	<i>Schedule of ET rates for different industries/properties use types</i>	105
8.13.	<i>Example service replacement contract</i>	105
8.14.	<i>Serviced Land maps</i>	105

Executive summary

The 2015-18 Price and Service Plan (PSP) is the second for Tasmania's water and sewerage industry and the first prepared by TasWater.

This Price and Service Plan seeks to build on the progress made over the 2012-15 period striking a balance between removing the complexities associated with current pricing arrangements and the urgent need to improve the condition of the state's water and sewerage assets.

The primary pricing objectives for the next three years are to achieve a level playing field for all customers, whereby there is pricing equity, and avoid price shocks to customers.

This Price and Service Plan has been developed based on fixed water and sewerage charges that are set on a statewide basis rather than regionally as was the case for the previous PSP.

The target fixed water and sewerage charges approved by the Economic Regulator for each of the next three years are set out in the following table.

Table 1: Approved target charges

	Approved Target Charges			Annual Increase
	2015-16	2016-17	2017-18	
Fixed water target charge per connection (20mm DN)	\$329.48	\$329.48	\$329.48	0%
Variable water target charge \$/kL (water of drinking water quality)	\$0.9711	\$0.9954	\$1.0202	2.5%
Fixed sewerage target charge per connection (One ET [^])	\$562.68	\$596.44	\$632.24	6%

Note[^]: Equivalent Tenement (ET) is the basis for the calculation of target charges for customers for sewerage services. It is a measure of the demand that a standard residential allotment will place on infrastructure in terms of sewage discharge.

These statewide target charges represent a decrease from the 2014-15 North West regional target fixed water and sewerage charges and an increase from the 2014-15 North and South regional target charges.

All customers above target fixed charges at the start of the period will transition to target on 1 July 2015, with customers below target charges continuing to transition up under price constraints approved by the Economic Regulator.

Residential customers below fixed water and sewerage target charges at the start of the period will see a maximum annual increase to fixed charges (water and sewerage combined) of no more than \$100 in each year, or 10 per cent, whichever is the greater, until both targets are reached. Non-residential customers below target will see the combined \$100 side constraint increased in proportion to the meter size and the number of ETs.

TasWater intends to invest \$330 million over the next three years on improving public health outcomes and environmental compliance, and ensuring existing assets deliver reliable services for future generations.

This investment will contribute to a significant reduction in the number of towns that are currently receiving a water supply that does not comply with Australian Drinking Water Guidelines. It will also see critical investment into poorly performing and non-compliant wastewater infrastructure, provide a safer working environment for our people and create a lasting benefit to our environment for future generations.

The next three years will also see new policy approaches to developer charges and trade waste, and a new basis for setting and measuring customer service standards.

The Economic Regulator has approved TasWater implementing a developer charges policy on 1 July 2015 that involves removing headworks charges. The new policy will be based on TasWater's Serviced Land area, with no changes to the arrangements for the costs of infrastructure dedicated to particular developments.

Trade waste customers will be categorised and charged in a way that more accurately reflects treatment costs and the demand they place on TasWater's infrastructure.

The Economic Regulator has determined that some key customer service standards will be measured on an actual minimum basis over the next three years. This means that TasWater will need to meet the approved targets in all instances a certain percentage of the time. For example, TasWater must attend to Priority 1 bursts and leaks and sewer spills, breaks and chokes in 60 minutes 90 per cent of the time.

TasWater will work with the Economic Regulator over the next three years to develop a customer service standards framework that provides the appropriate incentives for TasWater to continue to improve its service levels for the benefit of customers, while also addressing compliance and other challenges.

1. Introduction

1.1. About TasWater

TasWater commenced operations on 1 July 2013 as Tasmania's statewide provider of water and sewerage services through the merger of the three regional corporations – Ben Lomond Water, Southern Water and Cradle Mountain Water and their common service provider Onstream.

TasWater provides two essential services in Tasmania:

- the sourcing, treatment and delivery of reliable, quality drinking water to our customers; and
- the collection, transportation, treatment and safe return of wastewater to the environment.

TasWater employs just over 840 permanent employees and manages in excess of \$2 billion¹ in assets to provide drinking water and remove wastewater for return to the environment for the majority of Tasmania's residents.

1.2. Corporate Vision, Mission and Values

TasWater's vision is to be *'a trusted and respected provider of essential services that is making a positive difference to Tasmania.'*

The vision reflects the strong desire of TasWater to focus on what really matters for customers, regulators, owners and the general community who are dependent on us for the essential services we provide.

TasWater has a strategic framework (refer Figure 1) which underpins the delivery of the vision. It provides a means to better understand the expectations of our stakeholders and align our business activities to meet them.

¹ Accounting fair value

Figure 1: TasWater Strategic Framework

Vision	A trusted and respected provider of essential services that is making a positive difference to Tasmania				
Core Business	<ul style="list-style-type: none"> The sourcing, treatment and delivery of reliable, quality water to our customers The collection, transportation, treatment and safe return of wastewater to the environment 				
Value Drivers	Customer & Community Value	Financial & Commercial Performance	Business Systems & Processes	Quality of Product & Service	People & Culture
Strategic Themes	<i>"Customer focused and part of the community"</i>	<i>"Financially Sustainable"</i>	<i>"Fit-for-purpose and enabling"</i>	<i>"Long term asset managers"</i>	<i>"One TasWater"</i>
Strategic Objectives	Be a trusted & respected provider of essential services	To deliver sustainable financial outcomes that enhance the state's economic prosperity	Build fit-for-purpose consistent systems that enable 'best for business' outcomes	Provide products & services that deliver positive outcomes for Tasmania	Develop capable, empowered & accountable people committed to zero harm
Key Measures	Customer Satisfaction	Pricing	Productivity	Regulatory Targets	Zero Harm
Strategies	<ol style="list-style-type: none"> Deliver an experience that meets customer expectations Invest in our people's capability and build a values based culture Build systems that drive better service at a lower cost Keep price increases to a minimum Provide safe drinking water and improved environmental outcomes 				

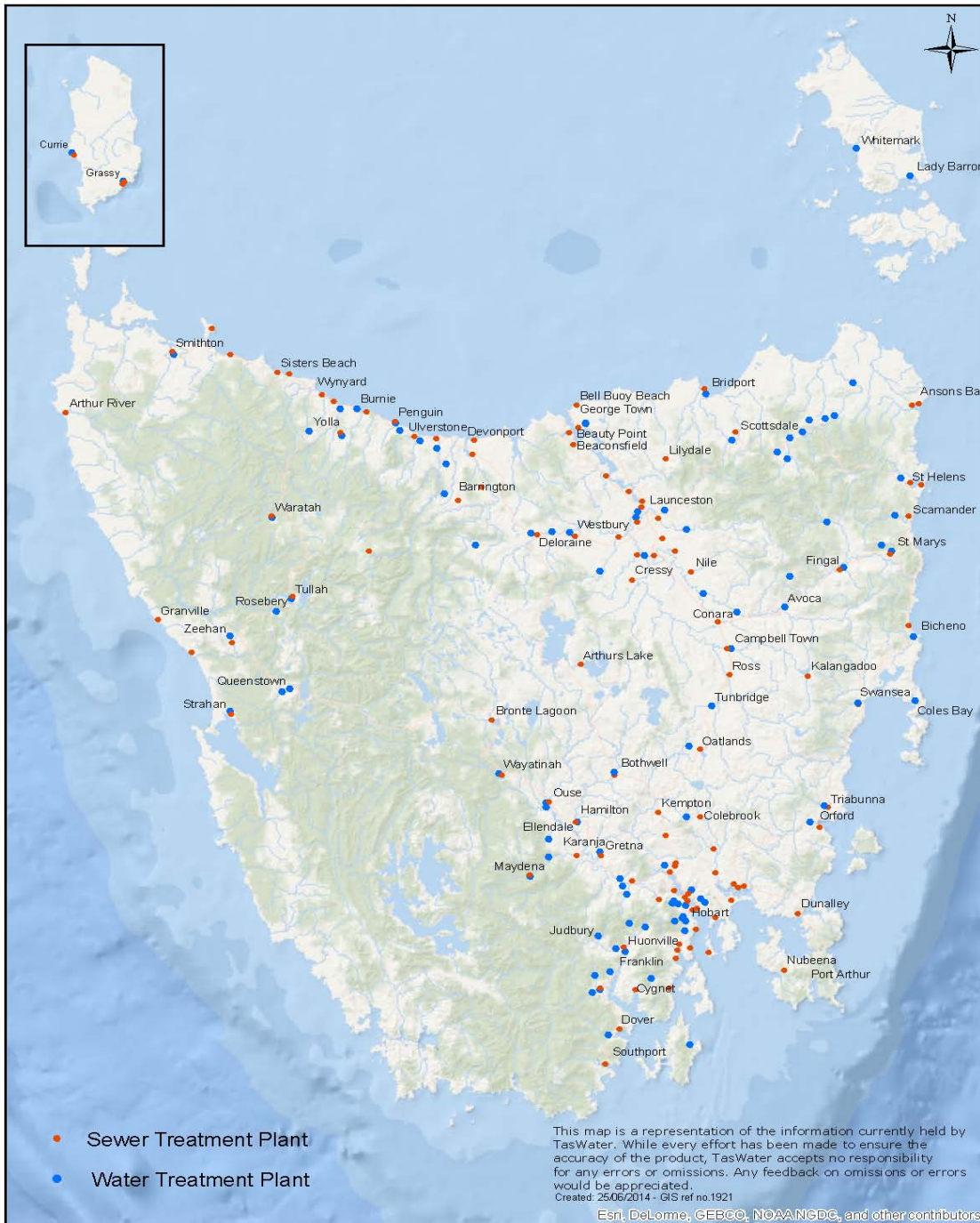
TasWater's values and behaviours, which are also an integral part of achieving the vision, are as follows:

- Honest and Straightforward**
We uphold the values and behaviours of TasWater in every action and decision
- Getting it Right**
We will develop responsible solutions and strive for continuous improvement in all that we do
- Long Term Thinking**
We will deliver outcomes that are in the best interests of the Tasmanian Community
- Working Together**
We will work together as one TasWater to meet the expectations of our customers
- Taking Ownership**
We will take personal responsibility for meeting commitments

1.3. Geographic area

In meeting the needs of our customers TasWater covers an area approximately 68,000km². A map showing the location of water and wastewater treatment plants across the State is provided at Figure 2.

Figure 2: TasWater Water and Sewerage Treatment Plants



1.4. Corporate governance

TasWater commenced operating on 1 July 2013 following the merger of the three former regional water and sewerage corporations and the common services corporation and is owned by Tasmania’s 29 local government councils. The councils are represented by an Owners Representative Group (ORG). The TasWater Board, which comprises the Chair and six directors, reports to the ORG as the body representing the owner councils.

TasWater is governed by a significant number of legal instruments, including:

- *Corporations Act 2001*
- *Water and Sewerage Corporation Act 2012*
- *Water and Sewerage Industry Act 2008 (Industry Act)* and associated regulations
- *Environmental Management and Pollution Control Act 1994 (EMPCA)*
- *Public Health Act 1997*
- *Land Use Planning Approvals Act 1993*
- Shareholders Letter of Expectations
- Constitution

The Industry Act sets out the economic regulatory framework that applies to the provision of water and sewerage services in Tasmania. TasWater must comply and operate consistently within the requirements of the Industry Act.

In providing water and sewerage services to customers TasWater must also comply with other instruments including the *Water and Sewerage Industry (Pricing and Related Matters) Regulations 2011 (Pricing Regulations)*, the *Water and Sewerage Industry (Customer Service Standards) Regulations 2009*, and a number of Guidelines and Codes (including those regarding Price and Service Plans and Customer Service Standards) issued by the Economic Regulator.

1.5. Key business activities

1.5.1. Water supply systems

TasWater has 76 water supply systems servicing over 200,000 water connections. These systems range from large systems with over 80,000 connections to small systems with fewer than 40 connections. These small systems are usually associated with small towns and rural communities and often suffer from poor water quality.

In providing drinking water TasWater manages 60 water treatment plants and dosing stations together with a network of 5,943km of water mains.

1.5.2. Sewerage systems

TasWater operates 113 sewage treatment plants (STPs) of which 80 are classified as Level 2 plants² and are regulated by the Environment Protection Authority (EPA); 33 are Level 1 plants³ regulated by councils.

Networks of sewer and pump stations transfer the sewage from customers to the sewage treatment plants. These systems service almost 175,000 customers to treat sewage and discharge to waterways or to agricultural reuse schemes. The treatment processes vary, many of the plants are ageing and the majority do not comply with modern environmental standards.

1.5.3. Unregulated services (irrigation/reuse/biosolids)

TasWater also supplies over 5,000ML per annum of water recycled from treated effluent to 38 irrigation schemes. This diverts effluent from waterways, providing valuable nutrients and high reliability water for farmers. In addition TasWater sends the majority of all generated biosolids to land spreading, which improves soil fertility and structure.

These activities demonstrate TasWater's commitment to sustainable resource recovery but are not subject to economic regulation as for normal water and sewerage services. TasWater's approach to unregulated

² A Level 2 plant is defined as a plant that has a design capacity of greater than 100kL/day.

³ A Level 1 plant (or activity) is defined as a plant which has a design capacity of less than 100 kL/day (Average dry weather flow).

services is underpinned by the principle of full cost recovery from the beneficiaries of the service, thereby ensuring there is no cross-subsidisation from regulated customers.

TasWater considers reuse on a case by case basis when developing solutions for addressing non-compliant systems or treatment plants. This consideration is based on the premise of identifying the least cost solution for customers.

1.6. Context of submission

The 2012-15 period was the first under which an economic regulatory framework, similar to that utilised in the electricity sector, had applied to the Tasmanian water and sewerage industry.

Prices started transitioning in 2009; however, the vast majority of TasWater's customers had not reached target tariffs by the end of the first regulatory period on 30 June 2015. Many customers receiving a water service were above target at the end of that period and many customers receiving sewerage service remained below target.

As reported in the latest State of the Industry Report⁴, significant public health and environmental issues, which were a significant driver of the reforms to the industry and have also been a significant contributor to price increases over recent years, also remain largely as a result of ageing and non-compliant infrastructure.

As at the end of March 2015, 24 permanent boil water alerts remained in place across the State and three towns were subject to Do Not Consume notices issued by the Director of Public Health due to elevated metals identified through testing programs.

Environmental compliance is still unsatisfactory with a high number of the State's 110 STPs operating outside acceptable performance levels.

On key metrics such as the frequency of pipe bursts, breaks and chokes, TasWater's infrastructure performance remained well above national benchmarks.

With the merging of the former regional corporations on 1 July 2013, TasWater has been able to take a statewide view to the delivery of water and sewerage services across Tasmania.

Having a single statewide business means that, over time, TasWater can:

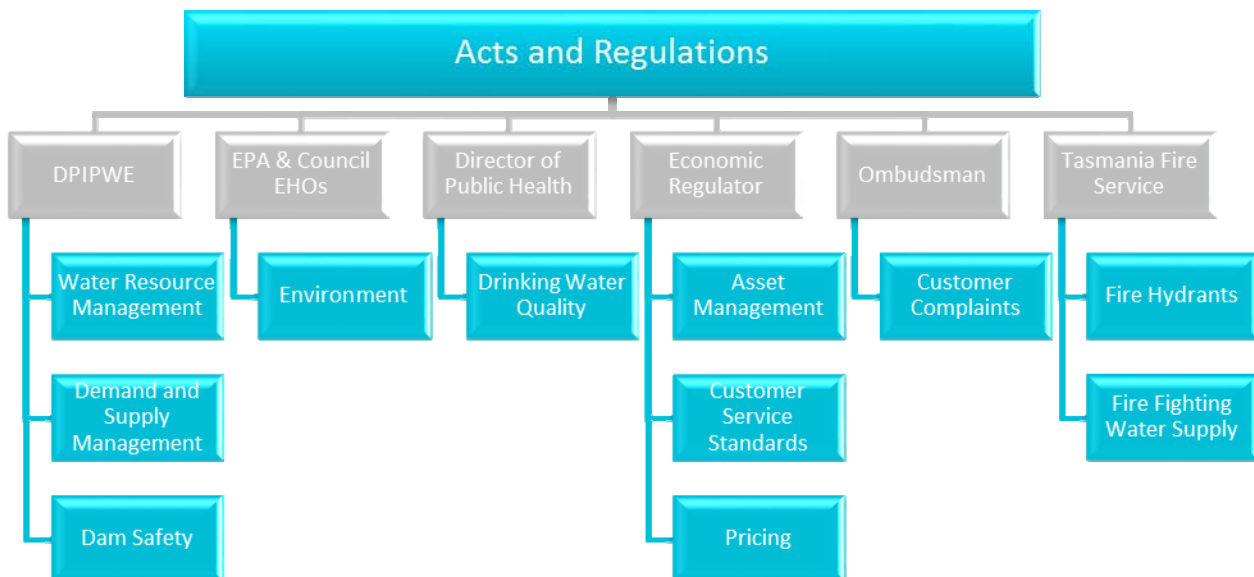
- achieve compliant health and environmental standards sooner than was previously possible
- build greater operational efficiency and effectiveness
- develop and implement long term, statewide asset plans
- strive for consistency and improved customer service outcomes
- achieve greater integration of administrative systems
- develop a broader base of employee skills and experience
- take advantage of a stronger and more stable financial base to manage debt and deal with a significant capital expenditure program.

TasWater's ability to deliver better services for customers and improved infrastructure that meets contemporary health and environmental compliance requirements is dependent upon the revenue it collects each year, and therefore, the prices that customers pay for the services they receive.

⁴ Office of the Tasmanian Economic Regulator, *Tasmanian Water and Sewerage State of the Industry Report 2013-14*, April 2015.

1.6.1. Regulatory framework overview

The Industry Act provides a regulatory framework covering the provision of water and sewerage services and is similar to utility regulatory frameworks in place in other jurisdictions. An illustrative overview of the regulatory framework applying to TasWater is set out in the following diagram.



The elements of the framework summarised in the figure above are also captured by TasWater's operating licence which is administered by the Economic Regulator. TasWater is also subject to performance monitoring by its regulators.

Consistent with the figure above, TasWater reports to the following regulators, the functions of which are described further below:

- Tasmanian Economic Regulator
- Director of Public Health
- Director, Environment Protection Authority
- Council Environmental Health Officers
- Department of Primary Industries, Parks Water and Environment
- Ombudsman
- Chief Officer, Tasmania Fire Service

Tasmanian Economic Regulator

The Economic Regulator's primary functions under the Industry Act are to:

- administer the licensing of the water and sewerage corporations
- monitor and report to the Minister on compliance with licence conditions and obligations
- establish and administer the Customer Service Code
- regulate prices, terms and conditions for regulated services
- monitor and report on the performance of the water and sewerage industry
- undertake inquiries in relation to the regulation of the water and sewerage industry.

Director of Public Health

The functions of the Director of Public Health, as administered by the Department of Health and Human Services in relation to the provision of drinking water services, are to:

- protect public health with respect to the supply of drinking water and to develop and implement strategies to promote and improve public health
- establish drinking water quality performance standards
- monitor performance against standards and the *Public Health Act 1997* (and its associated *Tasmanian Drinking Water Quality Guidelines 2005*), *Fluoridation Act 1968*, *Fluoridation Regulations 1999* and *Australian Drinking Water Guidelines 2004*
- report on and enforce compliance.

Director, EPA

The functions of the Tasmanian EPA in relation to the water and sewerage sector include the assessment and regulation of significant wastewater treatment plants. These are defined as Level 2 wastewater treatment plants, being plants with a capacity of at least 100kL of an average dry-weather flow per day of sewage or wastewater. The EPA's responsibilities in relation to these plants include:

- undertaking environmental impact assessments in relation to proposals for new plants or significant changes to existing plants
- developing legally binding environmental conditions for approved plants, which are included as part of the planning permit or as a stand-alone environment protection notice
- ensuring compliance with environmental conditions, largely through collection and evaluation of data on specified discharge limits and the impacts on the receiving environment.

Council Environmental Health Officers

Councils are responsible for regulating smaller Level 1 wastewater treatment plants as well as on-site treatment systems including septic tanks and the sewerage reticulation network. This is managed through Councils' Environmental Health Officers.

Department of Primary Industries, Parks, Water and the Environment

The Department of Primary Industries, Parks, Water and the Environment has responsibility for developing and coordinating policies relating to the regulation of the water and sewerage industry and to support the Minister in fulfilling functions required under the Industry Act. The Minister's responsibilities under that Act include:

- making declarations regarding what is not a regulated service
- granting interim exemptions from the requirement to be licensed
- setting penalties and annual licence fees
- issuing emergency directions in order to deal with serious risks to public health or safety, or to deal with the likelihood of environmental harm arising from the provision of a regulated activity
- declaring a regulated entity to be the "reserve supplier" for a particular area of operation
- directing the Regulator to conduct inquiries, review codes and report on matters for which the Minister requires a report.

The Water Resources Division within the Department plays an important water management, planning and regulatory role for the State's water resources, including the administration and enforcement of the *Water Management Act 1999*.

The functions of the Division, with regard to the water and sewerage sector, include the assessment, regulation and enforcement of water allocation licensing and dam permits to ensure the sustainable and equitable use of Tasmania's water resources.

Ombudsman

Under the regulatory framework, a customer who is not satisfied with the outcome of his or her complaint under the regulated entity's customer complaints process may make a complaint about that outcome to the Ombudsman under the *Ombudsman Act 1978*.

Under section 77 of the Industry Act, it is a condition of a regulated entity's licence, under which a regulated entity provides regulated services to customers, that the regulated entity comply with any recommendations made by the Ombudsman relating to a complaint involving the regulated entity and a customer.

Chief Officer, Tasmania Fire Service

The Tasmania Fire Service (TFS) is the regulatory authority responsible for fire safety in Tasmania. 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, amongst other things, 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. Testing to ensure the required flows and pressures is also required to be undertaken 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 are 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 help to ensure that the TFS and residents who may be facing a bushfire threat have water available for fire fighting and prevention.

1.6.2. Key assumptions

The following table sets out the key assumptions that underpin revenue and prices for the 2015-18 period.

Table 2: Key assumptions

Parameter	Assumption
Existing assets WACC _{real}	2.13%
New assets WACC _{real}	4.26%
Expected average water usage for 20mm connection (kL)	200 kL
Number of equivalent 20mm water connections (at start of the period)	255,278
Number of sewerage connections with 1 Equivalent Tenement (at start of the period)	238,967
Water and sewerage connection growth (%)	0.3%
Capital expenditure per annum	\$110 million (on average)
Opex indexation	2.5%
Maximum debt to equity	40%

1.6.3. Shareholder expectations

Under the *Water and Sewerage Corporation Act 2012* there is a requirement for TasWater's Shareholders to provide a Letter of Expectation to TasWater.

The Shareholders' Letter of Expectation identifies the strategic priorities owner councils have of TasWater and the high level expectations of its performance. TasWater's Corporate Plan is framed in the context of the Shareholders' Letter of Expectation.

The current Shareholders' Letter of Expectation commenced on 1 July 2013 and will continue to operate until such time as it is revoked or replaced. A copy is available on TasWater's website at www.taswater.com.au.

1.6.4. Key themes/intentions

The approach to the pricing and delivery of services for the three year period from 1 July 2015 balances the following outcomes:

- Managing the impacts of increases for customers currently paying below target pricing
- Meeting the expectations of those customers paying over target pricing
- Continuing the path of public health and environmental compliance improvement
- Meeting owner expectations as set out in the Shareholders' Letter of Expectations, particularly with respect to facilitating economic development
- Ensuring TasWater maintains an appropriate financial position.

In line with the vision of being 'a trusted and respected provider of essential services that is making a positive difference for Tasmania', TasWater's focus for the 2015-18 period is on achieving a level playing field and therefore equity and fairness for all customers, and delivering better services and outcomes for all Tasmanians for the long term.

2. Customer Consultation

As part of the development of the draft Price and Service Plan, TasWater sought feedback from customers, the community and other stakeholders.

This section sets out the consultation methods TasWater undertook in developing its draft Price and Service Plan. It also specifies the issues consulted on and TasWater's response to those.

TasWater used three main forms of consultation to inform the development of the draft Price and Service Plan: targeted market research with customers and stakeholders, direct engagement with key stakeholders (including regulators, owners, and business, industry and community groups), and a request for written feedback in response to a paper summarising TasWater's draft 2015-18 Price and Service Plan.

Concurrent with the release of the summary paper, TasWater launched an online community engagement portal via which customers and stakeholders were able to provide their feedback on the matters raised in the paper. TasWater will continue to use this portal as one method of engaging with the community on key projects and issues.

2.1. General consultation on draft Price and Service Plan

On 30 May 2014 TasWater released a draft summary of the 2015-18 Price and Service Plan for consultation. The summary outlined TasWater's view on the key issues for the regulatory period and the proposed approach to pricing and the delivery of services during those three years. It also set out the impact of the proposed pricing transition on different customer groups, summarised the proposed capital expenditure program and the expected outcomes and presented key policies for the second regulatory period.

Consultation was open for a period of four weeks and TasWater specifically sought feedback on the following matters:

- the proposed approach to prices and transitioning customers to uniform, statewide target prices by 2018
- the level of proposed capital expenditure for the period, particularly in the context of needing to address significant non-compliance issues
- the proposed approach to developing differentiated service standards for the 2015-18 Price and Service Plan
- the proposed approach to calculating and applying headworks charges for the second regulatory period
- the proposed approach to identifying and classifying its Serviced Land area, in particular the way in which water and sewerage services are defined for the purpose of identifying Serviced Land
- the intention to continue levying service charges on properties, and the way it is contemplating approaching this for the second regulatory period
- the proposed high-level framework for addressing public health or environmental issues with drinking water systems across the state, in particular, the criteria to be assessed before determining that service replacement options should be considered
- the proposed approach to categorising trade waste customers, in particular the splitting of Category 2 into sub-categories according to their risk to the sewerage system
- the proposed approach to assisting customers, particularly those experiencing financial hardship.

TasWater received 42 submissions in response to its summary paper, with the majority being from individuals. The submissions covered a range of issues, some of which related to the matters listed above and some of which related to matters of government policy or specific customer account issues. A summary of the key issues raised was made available in early August 2014 on TasWater's website.

The submissions received in response to the summary paper were informative and an important part of the development of the draft Price and Service Plan that was submitted to the Economic Regulator in August 2014. TasWater is of the view that further investigation is needed in a number of areas and that further consultation will be valuable for the development of future price and service plans.

More specifically, TasWater is of the view that the weighting of fixed and variable charges and the methodology for calculating sewerage charges warrant further investigation and consideration particularly once the majority of customers are on a level playing field with respect to pricing. These issues are discussed in further detail in Chapter 6.

2.1.1. Feedback related directly to the Price and Service Plan

The feedback received in response to the summary paper most commonly related to a discrete set of pricing issues that are of interest and/or concern to customers and stakeholders.

These issues included:

TasWater's ability to levy service charges on vacant land/unconnected properties and the current and proposed level of those charges

Of the submissions received, 10 discussed this issue and the responses shared a common view that the charges should either be wholly removed or discounted, with customers able to opt out from receiving a reticulated supply as is the case with other utilities such as gas, copper, landline, electricity.

Pricing inequity and the period of time over which TasWater is proposing to address the unfair pricing arrangements that currently exist

Seven submissions discussed the inequity associated with current pricing arrangements and that those customers paying well above the target price should have their charges reduced to target immediately.

More than one submission expressed support for the proposal to transition 95 per cent of customers to the same price by 2018. Another specifically suggested that the transition should not be accelerated as proposed by TasWater; rather, it should align with the legislated deadline of 2020.

The weighting of fixed and variable water charges

Concern was expressed in eight submissions that there is too much emphasis on fixed charges and that the fixed/variable split should be more heavily weighted to variable charges. A common reason supporting this position in submissions was about incentivising and encouraging water conservation.

Specific feedback was not provided regarding what the split/weighting should be, with the exception of a small number of submissions which suggested that fixed charges should be removed completely.

Whilst at some stage reconsideration of the split fixed/variable may be appropriate, at the current time it is considered that changing the mix of charges would pose a significant risk to revenue that is inappropriate given that the corporation is relatively new and the extent of the capital works program. As discussed in section 3.3 below, a range of views were expressed through the targeted consultation undertaken.

The level of target prices/increases in the context of affordability and cost of living generally

Eleven submissions expressed concern about the proposed level of increases and suggested that the rate of increase should be capped at CPI (or 2 per cent in one instance). Multiple submissions commented on the rate of increase relative to pension levels and increases, and there was also reference to public sector and minimum wage rises.

Further detail on these matters, including TasWater's responses, is set out in Chapter 6.

A number of other specific issues were also raised, including:

- for trade waste
 - the current approach does not take account of the actual waste discharged by a business
 - TasWater should work towards developing clear acceptance criteria and pre treatment requirements for each of its sewerage networks
 - the categorisation and pricing methodology should provide a price incentive for businesses to reduce water consumption and reduce the volume and alter the type of waste released into sewerage systems
- there should be flexibility in pricing arrangements for users who experience supply and service from TasWater that is below normal standards
- the level of detail available on the proposed capital expenditure program and, separately, its focus being on existing infrastructure rather than what services are not provided by TasWater
- the need for TasWater to explore cheaper alternatives to centralised treatment plants to provide services
- the quality of water supplied at Judbury and the approach to supplying rural customers
- the extension of sewerage services to Gravelly Beach and Swan Point
- the proposed approach to developer charges (only a small number of submissions addressed this matter and, while most were supportive, one was of the view that it is not the best way for TasWater to contribute to stimulating business growth)
- the Equivalent Tenement methodology for calculating sewerage charges being unfair for people in nursing homes, multiple units on one title with a single connection and independent single people living in units.

In responding to the summary paper a number of customers also raised specific issues relating to their own account/s. These matters were addressed directly with the customer and are not discussed further in this Price and Service Plan.

2.1.2. Feedback outside the scope of the Price and Service Plan

A number of submissions also raised issues that are outside TasWater's jurisdiction and matters of government policy. For example, TasCOSS and a number of individuals raised concerns about the level of pensions and water and sewerage concessions, both of which are funded by government at the Federal and State level respectively, relative to the proposed target prices. Concerns regarding the billing arrangements for, and lack of protection provided to tenants were also raised in response to the draft summary.

TasWater will work with TasCOSS during the next period to convene a vulnerable customer group as an appropriate forum through which such matters could be discussed and progressed.

2.2. Targeted customer and stakeholder consultation

2.2.1. Market research

In early 2014 TasWater undertook targeted market research (with the assistance of a specialist consultant) with customers and stakeholders.

This involved three focus groups (one in each region of the state) and a series of 300 phone surveys for residential customers and 15 one-on-one surveys with key stakeholders including major business customers, community stakeholders and council authorities. The research covered the following topics:

- service standards
- price reforms (including tariff increases, side constraints, postage stamp pricing, headworks charges, distributions to owners, Equivalent Tenement calculations, vacant land charges, weighting of fixed and variable water charges, level of fire service charging, and trade waste)

- proposals to improve product quality (ie priorities for capital spending).

2.2.2. Key stakeholder consultation

TasWater held numerous discussions with industry regulators to understand their expectations and priorities. As discussed further in Chapter 3, this was used to inform the development of various management plans as well as this Price and Service Plan.

Regular meetings are held with owner councils as a group, on a regional basis and individually. This ensures there is an open and ongoing discussion with shareholders regarding their expectations and the operations and activities of TasWater.

In addition, a number of meetings were held with key stakeholders, including government ministers (and/or their representatives), and community, business and industry representative organisations. These include, but are not limited to, TasCOSS, TCCI, Property Council of Australia – Tasmanian Division, Housing Industry Association, and Tasmanian Hospitality Association. Feedback from these discussions also informed the development of this Price and Service Plan.

TasWater aims to have ongoing dialogue with its key stakeholders to ensure there are ‘no surprises’ with respect to what the business is doing and the views of and key issues for our stakeholders.

2.3. Key issues from targeted consultation and customer surveys

This section sets out the key findings of the targeted consultation undertaken with residential customers and key stakeholders.

Capital works

There was reasonable support for the overall amount TasWater is spending on infrastructure upgrades, despite only 18 per cent of customers surveyed statewide being able to nominate one specific TasWater capital project.

When excluding those who answered ‘Don’t Know’, 60 per cent of customers surveyed in the South, 59 per cent in the North and 39 per cent in the North West said TasWater’s current capital works spending was ‘About Right’. This result was reflected in comments from focus groups and stakeholder/major customer interviews.

Spending priorities

Public health, service reliability and minimising costs were determined by the majority of respondents as important factors for consideration by TasWater when planning capital works. Respondents, particularly in the North West, were more indifferent to ‘environmental considerations’.

Weighting of fixed and variable water charges

Residential customers, major customers and stakeholders in each region have a strong awareness that the fixed charges make up a higher proportion of their bills than variable charges.

The strongest finding in the research, reflected by all three segments, was a preference for variable charges to make up a much higher proportion of the overall bills. Southern customers wanted a 50/50 split of fixed and variable, Northern customers nominated 60/40 split of variable and fixed as their preferred allocation, and North West 51/49 variable and fixed.

Major customers also strongly supported a higher proportion of variable charges.

TasWater considers the proposed split fixed/variable is appropriate at this time given the high fixed cost nature of the business.

Postage stamp pricing

There was support across all regions for a single statewide target price for each service.

The strongest response was in the South at 70 per cent, but there was also support in the North (56 per cent) and the North West (57 per cent).

Around a quarter of respondents favoured a local price based around the supply system for each area, and this concept was also supported by a number of major customers.

Moving to target tariff

Support for different methods for transitioning to target tariffs was not consistent. The most strongly supported method was a transition over three to five years with a maximum annual increase of \$50 per service per year for those below target, and an immediate drop to the target price for those currently above target.

Notably, there was almost no support for 'no increase' for those below target tariff, indicating an acceptance that equalising charges for all customers was an appropriate course of action.

Annual tariff increases

Among residential customers there was little support for annual increases to target fixed charges remaining at 6 per cent per annum. Of residential customers 36 per cent preferred a 1-2 per cent increase and 21 per cent preferred a 3-4 per cent annual increase.

Among major customers and key stakeholders there was some support for annual increases remaining at 6 per cent to fund infrastructure improvements.

2.4. Consultation undertaken by the Economic Regulator

In January 2015, following a review of TasWater's draft Price and Service Plan, the Regulator released its *2015 Price Determination Investigation – Regulated Water and Sewerage Services in Tasmania – Draft Report* for public consultation. The Economic Regulator received a number of submissions from interested parties, including TasWater, on its draft report. The Economic Regulator's response to the matters raised is set out in its *Statement of Reasons on 2015 Price Determination Investigation Final Report – Regulated Water and Sewerage Services in Tasmania* released in April 2015.

3. Regulatory Obligations

3.1. Introduction and overview

TasWater operates in a highly regulated environment. As a monopoly service provider the prices charged are overseen by the Economic Regulator. Further the inherent public health, environmental and safety risks involved in providing water and sewerage services means the technical provision of services is also highly regulated.

Further to the summary of regulatory framework within which TasWater operates (refer section 1.6.1), a more detailed summary of regulatory obligations is provided throughout this Chapter.

3.2. Industry regulatory obligations

3.2.1. Public health

TasWater is responsible for the operation and management of 76 water supply systems across the state in accordance with the following legislative instruments:

- *Public Health Act 1997*
- *Tasmanian Drinking Water Quality Guidelines 2005 (TDWQG)*
- *Australian Drinking Water Guidelines 2013 (ADWG)*
- *Fluoridation Act 1968*
- *Fluoridation Regulations 1999*

TasWater is regulated by the Department of Health and Human Services (DHHS) and the Director of Public Health who has wide ranging powers to ensure water quality is maintained and improved.

Under section 11 of the TDWQG, TasWater is required to develop and implement a Drinking Water Quality Management Plan (DWQMP) which must contain information as specified by the DHHS and be endorsed by the Chief Executive Officer of TasWater. The plan must be reviewed and updated on an annual basis unless otherwise directed by the Director of Public Health. All changes to the plan are to be noted in a document amendment history.

In addition to the requirement for a DWQMP, the Public Health Act states that TasWater must manage water in a manner that does not pose a threat to public health, and is required to provide potable water that complies with the health guideline values contained within the ADWG 2013. A new version of the TDWQG which will require the DWQMP to be independently audited by an accredited auditor will be issued in 2015.

TasWater received feedback from DHHS on its draft DWQMP and will issue a finalised version of the DWQMP to the Director of Public Health by 30 June 2015.

The TDWQG strongly align with the best practice management principles outlined in the ADWG. The ADWG are an evolving set of guidelines, undergoing rolling review on a four yearly basis. TasWater will continue to engage with DHHS in the application of the ADWG in the Tasmanian context as the national and state guidelines are updated and reviewed.

In February 2013 the Director of Public Health provided TasWater a priority list of towns and systems that required urgent attention. These systems feature heavily in TasWater's improvement plans, in the new DWQMP and the proposed capital works program detailed in section 4.3 of this plan.

The Director also provided six overarching priority actions in order to guide TasWater's activities and to improve drinking water quality. These actions include:

- Investigation into solutions for the upgrade or replacement of services in all towns operating on permanent Boil Water Alerts and Do Not Consume Notices
- Compliance with the Fluoridation Code of Practice and improved operational performance
- Completion of the reservoir roofing program
- Improved disinfection residual program
- Identification and implementation of solutions to address disinfection by-product formation in non-compliant water supplies
- Implementation of auditing program for DWQMPs against the TDWQG.

In March 2015, there were 24 systems in Tasmania subject to a Boil Water Alert and three systems subject to a Do Not Consume Public Health Notice. These 27 systems supply less than 2 per cent of TasWater's customers. Nevertheless, TasWater has a key focus on reducing the number of towns with poor water quality through a range of projects and investigations.

Projects, investigations and programs to address these overarching priorities and the specific towns and systems highlighted by the Director will be addressed in the forthcoming DWQMP, which aligns with the proposed capital works program for 2015-18.

3.2.2. Environmental

In relation to environmental obligations, TasWater is regulated by the EPA in accordance with the following legislative instruments:

- *Water and Sewerage Corporation Act 2012*
- *Water and Sewerage Industry Act 2008*
- *Environmental Management and Pollution Control Act 1994* (EMPCA)
- *Environmental Protection and Biodiversity Act 1993*
- *Land Use Planning and Approvals Act 1993*

The EPA comprises a Board and Director, both of which exercise powers at arms length from the State Government and have independent statutory powers under EMPCA. The Director of EPA can issue TasWater with directions, most notably in the form of Environmental Protection Notices. These notices serve to update ageing discharge licences for TasWater's sewage treatment plants.

The EPA regulates Level 2 sewage treatment plants, which are those with a throughput greater than 100kL/day. Smaller plants classified as Level 1 plants are regulated by the local council Environmental Health Officers who provide a key role in working with TasWater to manage environmental incidents and improve recreational water quality.

In April 2015 only 50 per cent of the volume of wastewater treated by TasWater's sewage treatment plants complied with discharge limits, indicating a need for major improvements and significant investment into sewage treatment infrastructure.

With the formation of the regional corporations in 2009, the EPA required each water authority to submit a Wastewater Management Plan (WWMP) outlining the investments and actions that would drive compliance. With the formation of TasWater these three plans were merged and updated. A new draft WWMP was submitted to the EPA in February 2015. This plan includes a comprehensive risk assessment of TasWater's sewage treatment plants and a range of capital upgrades and operational initiatives that will drive improvement. Subsequent comments and suggestions by the EPA are being used to assist in finalisation of the WWMP which is anticipated in July 2015.

EPA has had significant input to the previous WWMPs and also provided a priority list to assist TasWater in formation of the new plan.

In addition to investment in ageing and non-compliant infrastructure, TasWater is looking to improve management of environmental incidents and sewage spills with investment in remote alarming and telemetry systems and an updated Emergency and Incident Management framework.

3.2.3. Dam safety

The Department of Primary Industries, Parks, Water and Environment (DPIPWE) is the regulator for dam safety. The Department has issued specific requirements on the former regional corporations, and therefore on TasWater.

TasWater is regulated in accordance with the following legislative instruments:

- *Water Management Act 1999*
- *Water Management (Safety of Dams) Regulations 2011*

TasWater is responsible for approximately 300 water and wastewater storages, lagoons and weirs which fall within the definition of a dam under the Water Management Act.

Section 165G of the Water Management Act states that TasWater as an owner of a portfolio of dams “must, so far as is reasonably practicable, maintain and operate the dams so as not to cause, or be likely to cause, material harm or danger to any person or property.”

Whilst the Water Management Act applies to all dams, the emphasis of regulation is on dams with a consequence category (ANCOLD 2012) of significant or higher. It is also a requirement that all dams have a consequence category assessed. Major dam failure causing asset damage and public safety issues is a significant strategic risk for TasWater.

TasWater has adopted a Dam Safety Policy which establishes the organisation’s commitment to dam safety management. A statewide Dam Safety Management Strategy has been prepared to give effect to TasWater’s Dam Safety Policy. The Strategy sets out how TasWater will reliably meet its obligations for dam safety in accordance with the Dam Safety Policy by establishing clear strategic targets for the delivery of all dam safety activities.

TasWater also has a Dam Safety Management Plan which seeks to ensure the safety risks of TasWater’s portfolio are all below the limit of tolerability and satisfy the As Low As Practicably Possible (ALARP) principle. A report on compliance with the Dam Safety Management Plan is to be submitted to DPIPWE toward the end of each financial year for all dams of significant or higher hazard category, with the following content:

- Work done in past 12 months
- Work proposed for the next 12 months
- An indication of work scheduled over the next five years.

3.3. Consultation with regulators

The expectations and requirements of the various regulators – during both daily business and emergency situations – are central to the development of TasWater’s plans.

TasWater’s relationship with its regulators is therefore critically important. TasWater recognises that relations should not be ‘close’ as it is their role to regulate our business. Notwithstanding this, TasWater seeks to engage with its regulators on a ‘no surprises’ approach.

Communication with the regulators, both informal and formal, occurs on a regular basis regarding a range of matters. TasWater has regular reporting requirements to the three major technical regulators (some more frequent than others) in order to monitor progress.

As discussed in section 3.2, the technical regulators, in particular DHHS and the EPA have provided TasWater with priority project lists for water quality and wastewater. These were taken into account in developing the DWQMP, WWMP and DSMP, which in turn informed TasWater's capital expenditure program for the next three years. Further, TasWater undertook specific consultation with each of the technical regulators individually as part of the development of those management plans.

With respect to economic regulation, TasWater also has regular reporting obligations to the Economic Regulator arising primarily from the operating licence and water and sewerage industry guidelines which cover the following issues:

- Regulatory Accounting Ring Fencing
- Performance and Information Reporting
- Price and Service Plan

As part of the development of this Price and Service Plan, TasWater sought to comply with the expectations of the Economic Regulator as set out in the Price and Service Plan Guideline and our approach to a number of issues has been discussed informally. In relation to capital expenditure, TasWater held a workshop in early July 2014 with the major technical regulators⁵ (including DHHS, EPA, DPIPWE and the Economic Regulator) to specifically discuss its proposed capital works program for the 2015-18 period.

⁵ Tasmania Fire Service was unable to attend the workshop.

4. Revenue Requirements

4.1. Introduction and Overview

The Industry Act and the Price and Service Plan Guideline requires a Price and Service Plan to address the revenues needed to deliver the regulated services to the agreed standards, based on efficient service delivery costs.

One of two key steps in the Economic Regulator’s price determination investigation is determining revenue limits based on appropriate services, service standards, regulatory compliance improvement, efficient costs and appropriate returns. The Tasmanian economic regulatory framework, which has adopted National Water Initiative (NWI) pricing principles, uses the ‘building block approach’ to determine the revenues TasWater needs to operate in this manner.

The NWI pricing principles define two revenue limits:

- Upper revenue limit (full cost recovery)
- Lower revenue limit (sustainability threshold).

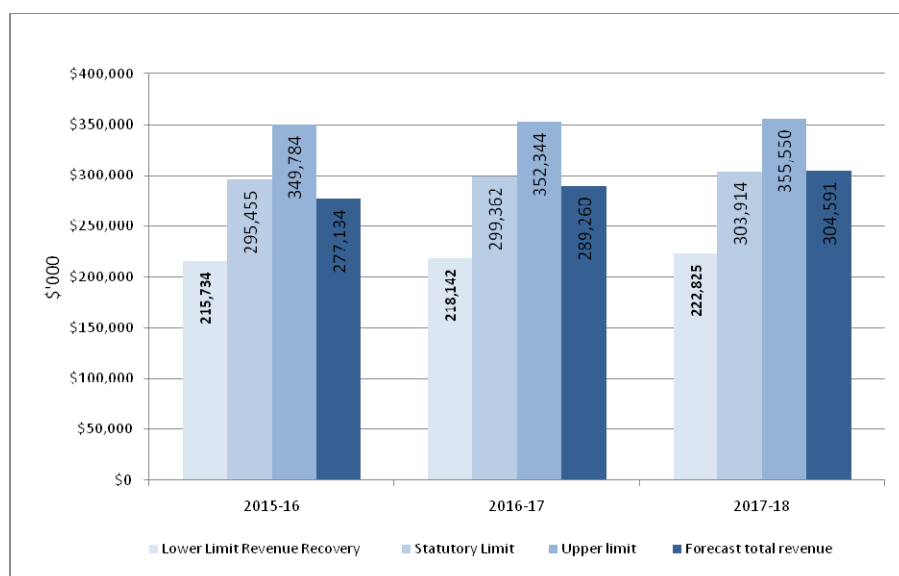
Under the NWI pricing principles, a water and sewerage business should recover revenue that is at least equal to the lower revenue limit but not greater than the upper revenue limit.

The Industry Act also prescribes an additional revenue limit, the statutory revenue limit, which provides for TasWater to earn a commercial return (known as the Weighted Average Cost of Capital or WACC) on new assets (those purchased or constructed after 1 July 2009) and a 3 per cent legislated return on equity on existing assets transferred before 1 July 2011.

The Economic Regulator has determined the minimum amount TasWater requires to cover all costs of operation as its lower limit of revenue. This provides for: operating and maintenance expenditure, debt servicing costs and an allowance for the cost of asset refurbishment, replacement and future augmentation. It does not provide for TasWater to earn a return on capital other than interest costs incurred.

The Economic Regulator expects that TasWater will earn revenues at the statutory limit in the near future and the below chart shows the expected revenue at the lower, statutory and upper limits for each year of the regulatory period and forecast revenue for the next three years.

Figure 3: Forecast revenue at lower, statutory and upper limit for 2015-18



A detailed breakdown of the building blocks of the forecast lower, statutory and upper revenue limits are outlined in sections 4.8, 4.9 and 4.10.

Some of the key regulatory parameters for determining the limits are set out in Table 3.

Table 3: Key regulatory parameters for determining revenue limits

Parameter	Rate/Value
WACC (existing assets)	2.13%
WACC (new assets)	4.26%
Starting RAB (1/7/2015)	3,015,726
Asset annuity provision (\$'000)	\$44,260

The second key step involved with a price determination investigation is approval of an appropriate tariff structure that continues the transition towards meeting the requirements of the pricing principles within the Industry Act and the Pricing Regulations but does not generate revenue in excess of annual revenue limits.

It is important to note, at this time, that the prices customers actually pay (when they are not at target) are not directly determined by TasWater's revenue for this next regulatory period. This is because the majority of customers will continue to transition from the varied pricing regimes TasWater inherited to target prices during the period.

TasWater's target prices, as approved by the Economic Regulator, are set out in Chapter 6 of this plan. This chapter goes through each of the revenue building blocks and details the approach to some key elements, including calculation of the WACC.

4.2. Operating expenditure

4.2.1. Summary

As discussed in 4.1, an allowance is made in the build-up of revenue for the efficient cost of operating and maintaining TasWater's water and sewerage systems together with the associated administrative costs.

Operational expenditure refers to expenditure that does not create or lengthen the life of an existing asset, but which is necessary for the running of the business. This includes spending on items such as maintenance of assets, administrative costs, wages and salaries.

Table 4: Forecast efficient operating costs over the 2015-18 regulatory period (\$'000)(\$2014-15)

	2015-16	2016-17	2017-18
Efficient regulated operating expenditure	149,746	150,046	150,446

4.2.2. Allocation of operating expenditure items by business segments (regulated water services and regulated sewerage services), within business segments and between activity areas

A breakdown of operating expenditure by business segment is set out in Table 5. The Economic Regulator has determined that operating expenditure should be maintained in real terms over the period. This is reflected by the forecasts set out in Table 5.

Table 5: Base year (2015/16) forecasts of Opex by activity area within each business segment (\$'000)(\$2014-15)

	Water	Sewer	Total
Chemicals, Power & Royalties	10,420	9,291	19,711
Materials & Services	10,517	16,402	26,919
Water Sampling	549	2,700	3,249
Salaries & Related Personnel Expenditure	34,191	34,549	68,740
Governance	1,530	1,372	2,902
Information Systems	1,835	1,646	3,481
Customer Collection Expenses	1,251	1,113	2,364
Consultancy	1,173	1,052	2,225
Administration Other	3,830	3,434	7,264
Community Relations	296	263	558
Facility Management	3,393	3,042	6,435
Insurance	1,053	943	1,996
Motor Vehicle	2,057	1,844	3,900
Total	72,094	77,652	149,746

The operating expenditure above is associated with regulated activities. Unregulated expenditure of \$3.8 million has been excluded from the efficient operating cost build up. Direct unregulated expenditure such as power, chemicals and maintenance are budgeted against individual unregulated assets, where possible. In addition to these direct costs, a share of salaries and administration costs have been allocated to unregulated expenditure based on the proportion of total revenue.

4.2.3. Productivity initiatives

TasWater is targeting greater efficiencies in the cost of materials, many of which are driven by reviewing existing procurement procedures.

A range of other initiatives is also underway that will continue to drive greater productivity outcomes for the long term, including:

- Mapping and standardisation of processes and systems
- Investigation of more efficient capital works procurement and delivery processes
- Development of Field Service Mobility Solution (FSMS)
- Purchase and implementation of an Asset Management Information System (AMIS).

4.2.4. Forecasts of operating expenditure (taking into account the proposed labour productivity factor and economies of scale arising out of the amalgamation of the previously regulated entities)

TasWater expects to achieve in excess of \$5 million of ongoing annual savings resulting from the merger of water and sewerage activities into a single statewide entity. It is expected that all of these savings will be achieved by the end of FY2014-15 and are therefore reflected in Table 5 above. The major savings include:

- Salaries and related personnel expenditure
- Governance, including Board costs and regulatory fees
- Materials and services through more efficient procurement practices
- Administration, including IT costs.

4.3. Capital expenditure

A significant proportion of TasWater’s infrastructure is ageing and/or in poor condition and its performance is non-compliant, resulting in public health and environmental outcomes that do not meet contemporary standards.

This has been confirmed by the Economic Regulator in recent State of the Industry Reports, which highlighted that: the majority of Level 2 sewage treatment plants do not fully comply with licence conditions, a number of dams that do not comply with relevant dam safety regulations and a number of drinking water systems that do not comply with water quality guidelines. There are mitigation measures in place to address health and safety implications from these non-compliances but this situation is not sustainable.

4.3.1. Summary

The Economic Regulator has approved (nominal) capital expenditure of \$100 million in 2015-16, \$110 million in 2016-17 and \$120 million for 2017-18.

As was the case during the 2012-15 regulatory period, given the inherited compliance challenges, TasWater’s capital works program for the next three years will be geared towards addressing compliance objectives. Sewerage infrastructure issues are expected to remain a challenge into the foreseeable future, and TasWater is continuing to build upon and improve the quality of its data. Therefore, it is too early to determine when the focus of the capital program will shift to renewals. It should be noted that some compliance expenditure will also address renewal challenges.

Table 6 sets out the total capital expenditure split by water, sewerage and unregulated for each year of the 2015-18 regulatory period.

Table 6: High level break down of proposed capital expenditure for each year of the 2015-18 regulatory period (\$’000) (nominal)

	2015-16	2016-17	2017-18
Water	37,270	42,164	42,639
Sewerage	49,519	55,401	62,798
Non-Network	\$13,210	\$12,435	\$14,563
Total	\$100,000	\$110,000	\$120,000

Note: TasWater also expects to spend \$1.1 million in 2015/16 and \$1.3 million in 2016/17 on unregulated capital projects.

The approved level of expenditure will allow TasWater to advance the program to address a significant proportion of our compliance requirements as well as necessary renewal and growth driven works.

With respect to the allocation of the capital expenditure program by business segment, TasWater’s capital works program will be more heavily weighted towards wastewater during 2015-18. A breakdown of the capital expenditure by water, wastewater and non-network is provided throughout this section.

With respect to water quality, it is expected that expenditure over the next three years will allow TasWater to continue reducing the number of towns on Boil Water Alerts and Do Not Consume Notices.

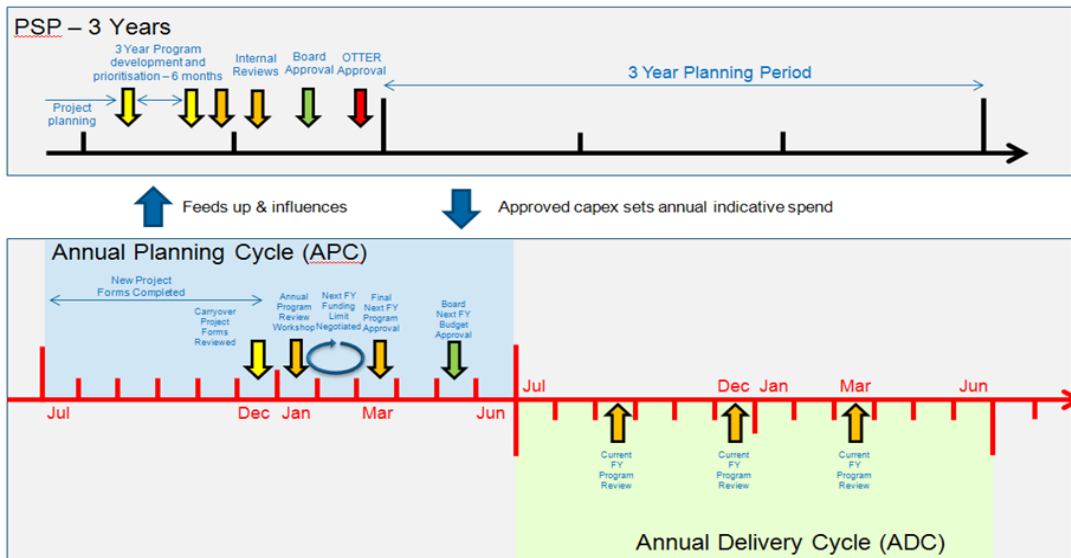
Through the next regulatory period, in order to improve the performance of larger sewerage treatment plants, which have a greater proportional impact on sewage compliance, TasWater will be progressing key wastewater strategies for major urban centres including Launceston and Hobart. Works will commence in the 2015-18 period, however the completion of these programs will be subject to the availability of funding.

4.3.2. Capital planning process and prioritisation

TasWater has developed a capital works planning and prioritisation process that integrates with its Project Management Framework (PMF) that is used for the delivery of capital works projects and programs by the corporation. The process was developed based on work completed by the three previous regional corporations and guidelines/benchmarking completed by the Water Services Association of Australia (WSAA).

The process is undertaken annually consistent with Figure 4.

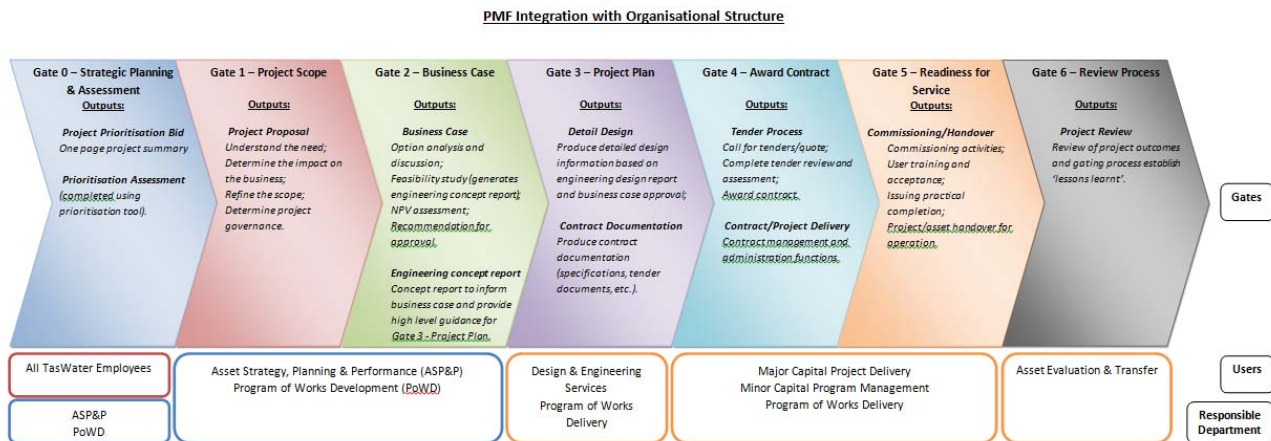
Figure 4: Overview of capital works planning process



Project and program prioritisation is completed annually through the use of a prioritisation tool that assesses the risk of project deferral and how projects align with corporate value drivers contained within the Corporate Plan. The aim of the tool is to compare projects across asset classes, regions and drivers equally and to present a modelled outcome for internal review. The prioritisation process allows TasWater to develop a capital works program where a potential capital project is identified and assessed based on the ability to address risk to the business and the achievement of corporate value drivers.

Figure 5 shows how the prioritisation process and PMF integrates with TasWater’s organisational structure.

Figure 5: Integration of prioritisation process and project management framework with TasWater’s organisational structure



At the completion of the prioritisation process there are two outputs, the first is a detailed capital works program for the coming financial year and the second is a proposed capital works program for future years. The intention is to further develop and understand the proposed capital works program such that TasWater has a rolling ten year capital works program containing high level detail for years 1-3 (current duration of pricing periods).

The capital works program is then presented to the Asset Strategy, Planning and Performance Department for development of business cases for individual projects and programs. The CEO has certain delegations to approve capital works, based on size, risk and complexity of the individual project or program. Where the project requires Board approval, initial scrutiny is undertaken by the Board Capital Works Committee prior to presentation to the Board for consideration.

Table 7: Risk Definitions

Risk Category	Low	Medium	High
Brand	Low risk of brand damage.	Moderate risk of brand damage.	Risk of significant damage to the TasWater brand.
Technology	The project relies upon the use of industry standard, well proven and tested technology.	The project relies upon the use of technology that while proven, has not been used widely in the water and sewerage industry for the intended purpose.	The project relies upon technology that does not have a comprehensive proven record of successful applications.
Learning Curve [#]	We have successfully undertaken this type of project more than six times in the past.	We have successfully undertaken this type of project at least once in the past.	We have not successfully undertaken this type of project before.
Political	Low level of political interest anticipated.	Moderate level of political interest anticipated.	High level of political interest anticipated.

Note #: Includes TasWater, Southern Water, Ben Lomond Water and Cradle Mountain Water projects

As discussed in Chapter 3, TasWater has been working closely with DHHS, the EPA and DPIWPE to determine priorities in the water and wastewater areas for the 2015-18 regulatory period.

Drinking water compliance projects have been determined through liaison with the DHHS and the development of the DWQMP. The aim of drinking water compliance projects is to improve health outcomes through the provision of treated water to communities or implementing service replacement for those communities where the cost to provide a potable supply is deemed excessive.

Wastewater compliance projects have been determined through liaison with the EPA and the development of the WWMP. The aim of wastewater compliance projects is to achieve regulatory compliance at all wastewater treatment plants, which will improve environmental performance and outcomes.

Dam safety compliance projects have been determined through liaison with DPIPW and the development of the DSMP. The aim of dam safety compliance projects is to ensure that the risk associated with failure of a dam is below the level of tolerability specified in the ANCOLD guidelines.

The balance of projects to be completed over the pricing period were determined through the completion of project bid documentation and put through the project prioritisation process outlined above. This process ranked projects based on the risk of deferral and how the project would address the value drivers in the Corporate Plan.

One of the key learnings from the 2012-15 period was the time required to finalise the asset strategy and with the benefit of hindsight it is also clear that we were overly optimistic with our project timelines. This resulted in underspend on the planned annual expenditure. TasWater is now significantly better informed about the time required to obtain approvals and deliver projects which are “shovel ready”.

4.3.3. Asset Management

In May 2013, a new statewide operating model based upon the principles of strategic asset management was introduced. This new operating model has been tailored to suit the circumstances and priorities of the new corporation, however its foundation is the ISO 55000 series of international standards for the management of infrastructure assets.

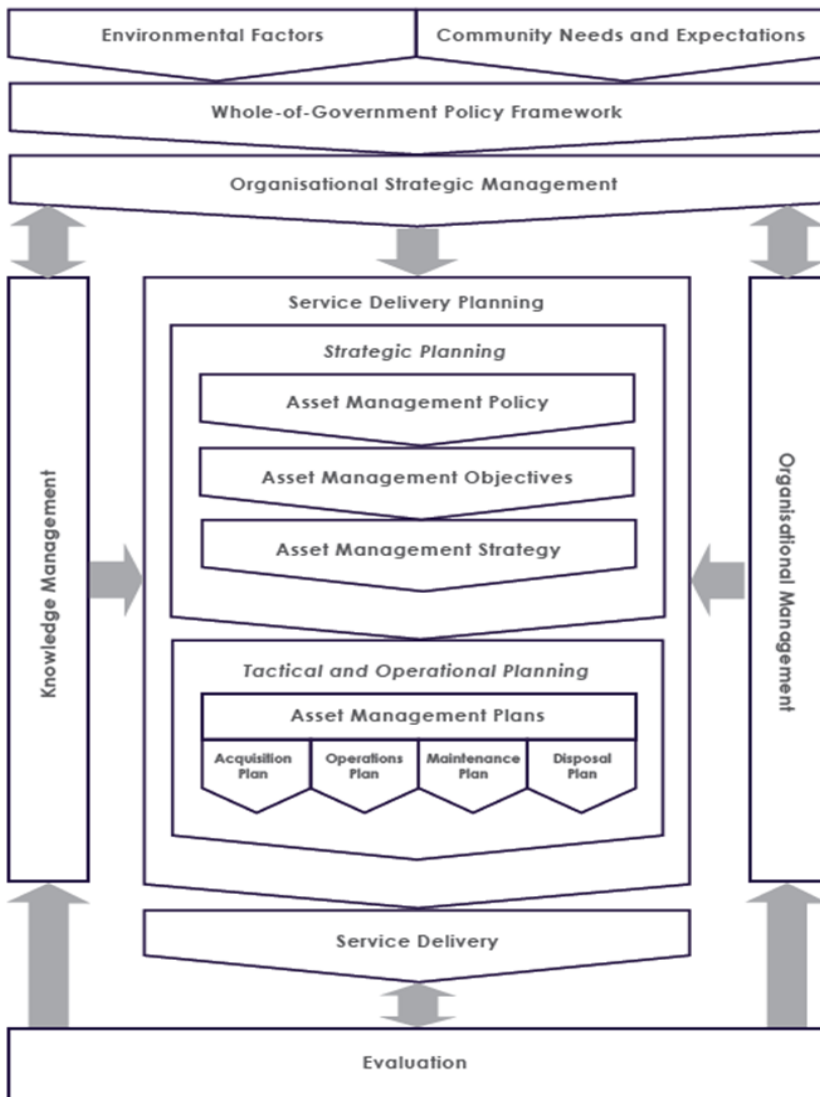
The operating model is premised upon a high degree of cross divisional co-operation and an integrated approach to asset management consistent with the principles of the ISO 55000 series.

This approach will develop with the maturity of TasWater. It is dynamic and needs to be aligned with TasWater’s strategic direction. The development of the strategic planning component of the ISAM Model (ie Asset Management Policy, Asset Management Objectives and Asset Management Strategy) will run concurrently with the finalisation of the Corporate Plan. An interim Asset Management Policy is presently in place.

An important component of this approach is consultation with Operations and Maintenance, Works Delivery and Finance and Commercial Services Divisions.

The focus is long-term overall management of infrastructure and engineering assets, while considering the immediate operational matters. Figure 6 illustrates a typical generic ISAM Model.

Figure 6: Example of an Integrated Strategic Asset Management model



As noted previously, capital expenditure for TasWater has been and will continue to be heavily driven by improving compliance.

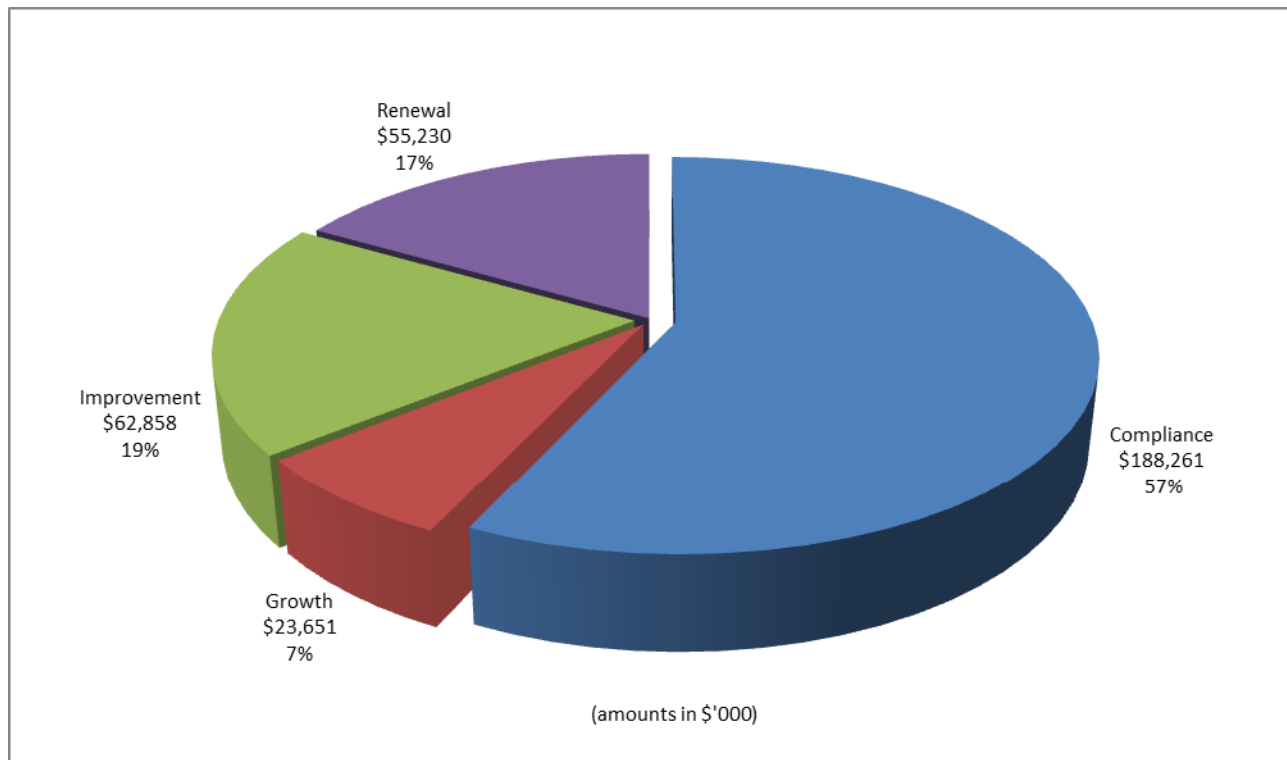
TasWater has set an interim asset management policy. By the end of the second regulatory pricing period TasWater will have completed service delivery planning and will have developed asset management plans for each system.

A significant challenge that continues to be faced is the lack of quality asset data to help inform asset management strategy and decisions. TasWater is developing a logical asset data structure and hierarchy that will inform the next asset valuation and that will underpin the service delivery planning phase that TasWater will be undertaking in the upcoming pricing period.

4.3.4. Key drivers of capital expenditure (growth / renewal / improvement / compliance)

As discussed in section 4.3.1, the Economic Regulator has approved (nominal) capital expenditure of \$100 million in 2015-16, \$110 million in 2016-17 and \$120 million in 2017-18; totalling \$330 million over the three year period. The initial focus will be on compliance, particularly on sewerage infrastructure while also continuing the work to remove all permanent boil alerts.

Figure 7: Total projected capital expenditure by key driver over the 2015-18 period (nominal \$ and %)



A more detailed breakdown for each year of the period is set out in Table 8.

Table 8: Capital expenditure by driver for each year of the regulatory period (\$'000) (nominal)

Driver	2015-16	2016-17	2017-18
Compliance	57,046	71,980	59,234
Improvement	21,618	18,488	22,752
Renewal	17,131	16,565	21,535
Growth	4,205	2,967	16,479
Total	\$100,000	\$110,000	\$120,000

The capital expenditure program is made up of projects across the three business segments of TasWater being water, wastewater and non-network. The breakdown of expenditure by driver and major projects for water and wastewater are discussed in sections 4.3.5 and 4.3.6.

Non-network projects are made up of expenditure that relates to the efficient operation of the business and includes items such as fleet, software/hardware and support functions such as laboratories and SCADA infrastructure, and typically accounts for 11-13 per cent of the capital works program.

4.3.5. Water capital expenditure by key driver

Despite earlier commentary regarding the focus of capital expenditure being more heavily weighted towards sewerage, TasWater expects to spend a significant amount of money on water projects during 2015-18.

Table 9 shows the total spend on water by driver.

Table 9: Capital expenditure by driver for each year of the regulatory period – Water (\$'000) (nominal)

Driver	2015-16	2016-17	2017-18
Compliance	22,548	30,413	15,945
Improvement	6,722	6,338	7,597
Renewal	4,947	3,227	6,164
Growth	3,054	2,186	12,932
Total	37,270	42,164	42,639

Table 10 presents the 10 highest individual capital value projects for water during the next period.

The completion of these projects will see the number of towns still on a Boil Water Alert or Do Not Consume Notice reduced to eight by the end of June 2018. This is consistent with TasWater’s DWQMP. Some of the larger towns on the DHHS priority list for water supplies will be addressed during the next three years.

Three of the projects on the list relate to reducing or removing operating risks to the business through improving the operation of some higher risk dams. These are the largest of a number of dam projects that TasWater will be looking to complete over the next pricing period and align with the TasWater Dam Safety Strategy.

The remaining two projects in the top 10 represent growth projects and highlight TasWater’s commitment to making investment decisions that support the state’s economic prosperity. The completion of these two projects will ensure system capacity into the future for growth areas.

Table 10: Top 10 highest individual capital value projects for water during 2015-18

Project	Driver	Estimated Value	Description
Tolosa Dam Decommissioning	Compliance	\$24M	Decommissioning of the dam and construction of two reservoirs and connecting pipework to replace the Tolosa Dam.
King Island Water Supply Upgrade	Compliance	\$16M	Construction of a new water treatment plant and a connecting pipeline between Grassy and Currie.
Ridgeway Dam – Upgrade Post Tensioned Anchors	Compliance	\$15M	Replace the existing post tensioned anchors to ensure the stability of the abutment blocks in the long-term.
Scottsdale – Bridport Pipeline	Growth	\$12M	Construction of a new pipeline between Scottsdale and Bridport. Pipeline will allow for decommissioning of existing poorly performing Bridport WTP and make use of surplus capacity at Scottsdale WTP.
Flinders Island Water Supply	Compliance	\$11M	Construction of water treatment infrastructure for the towns of Whitemark and Lady Barron to remove permanent boil water alerts.
Ringarooma Valley Treated Water Supply	Compliance	\$10M	Project to provide treated water supply in accordance with ADWG for the towns of Ringarooma, Legerwood, Branxholm and Derby. The project may also incorporate construction of a pipeline to the town of Winnaleah. Note: Partially funded from PSP1.
Rosebery Water Treatment Plant	Compliance	\$6M	Construction of a new WTP for the town of Rosebery to improve compliance with ADWG.
Margate Water Main – Stage 2	Growth	\$6M	Installation of pipeline to serve fast growing areas in Kingborough.
Avoca Treated Water Supply	Compliance	\$5M	Capital improvement works (WTP or pipeline from Fingal) to remove the Do Not Consume notice in place at Avoca.

Project	Driver	Estimated Value	Description
Lake Mikany – Filter Buttress	Compliance	\$5M	Upgrade to the existing Lake Mikany Dam to lower operating risk associated with the dam.

4.3.6. Sewerage capital expenditure by key driver

As discussed earlier in this section, the focus of TasWater’s 2015-18 capital expenditure program will be more heavily focused towards compliance for sewerage infrastructure. The total sewerage spend by driver is set out in Table 11.

Table 11: Capital expenditure by driver for each year of the regulatory period – Sewerage (\$’000) (nominal)

Driver	2015-16	2016-17	2017-18
Compliance	34,498	41,567	43,289
Improvement	6,541	4,822	6,993
Renewal	7,329	8,230	8,969
Growth	1,151	781	3,547
Total	49,519	55,401	62,798

With respect to specific sewerage projects during 2015-18, Table 12 sets out the 10 highest individual capital value projects for sewerage that will be substantially funded/completed during the next pricing period.

The completion of the projects listed below will result in substantial performance and compliance improvements for 11 sewerage systems that have been identified as a high priority by the EPA and within TasWater’s WWMP. These represent the largest of a number of sewerage compliance projects that will commence or be completed during the pricing period.

Table 12: Top 10 highest individual capital value projects for sewerage during 2015-18

Project	Driver	Estimated Value	Description
Kingborough Sewerage Strategy - Treatment	Compliance	\$30M	Rationalisation of existing STP’s at Margate, Electrona and Blackmans Bay. The existing plants are all high on the EPA priority list.
Wynyard STP – Major Plant Upgrade	Compliance	\$17M	Major upgrade at Wynyard STP to achieve compliance with AMT limits and rationalisation with Somerset STP. Note: \$5M to be funded during third pricing period.
Kingborough Sewerage Strategy - Network	Compliance	\$14M	Construction of pipelines to allow rationalisation of existing STP’s at Margate, Electrona and Blackmans Bay.
SPS Electrical Switchboard Renewal	Renewal	\$12M	A number of switchboards have been identified as exceeding their useful life and are failing. Project will replace a number of switchboards at SPS across the southern region. Note: Approximately \$3.5M funded in first PSP.
Rosebery STP – Construction of new plant	Compliance	\$10M	Construction of a new treatment plant for Rosebery to replace the existing arrangement with discharge into a tailings dam. Note: Approximately \$4M funded in first PSP.
Ti Tree Bend Centrifuge – Biosolids Reduction	Compliance	\$9M	Construction of a centrifuge and sludge drying facilities to improve sludge handling at the STP.
Brighton STP Rationalisation	Compliance	\$9M	High priority plant on EPA list, flows exceed treatment capacity.

Project	Driver	Estimated Value	Description
Legana STP Upgrade	Compliance	\$9M	The existing plant is hydraulically overloaded due to continued growth in the system. High volumetric loading causes discharge into the Tamar River. Note: \$6M to be funded during fourth pricing period.
Evandale – Western Junction Major STP Upgrades	Compliance	\$8M	The existing plants are both poorly performed and could be rationalised into a single new STP at the Evandale STP site.
Longford STP Process Improvements	Compliance	\$7M	Upgrade to treatment process to handle high trade waste content from Swift abattoirs and relocate/upgrade existing outfall location.

The list above does not consider three of the major sewerage compliance projects TasWater is considering undertaking over the next two to three pricing periods; being the Launceston Sewerage Improvement Plan, the Hobart Sewerage Improvement Plan and the Pardoe Sewerage Improvement Plan. This is due to the majority of the funding for these projects forecast to occur during the third or fourth pricing period. The costs associated with these projects for the next three years relate to planning and investigation works as well as preliminary design and regulatory approvals. TasWater is likely to require external funding to enable these projects to be completed on a timely basis.

4.3.7. Non-Network capital expenditure by key driver

As discussed earlier in this section, between 11 and 13 per cent of the capital works program relates to non-network assets. The total proposed non-network spend by driver is set out in Table 13

Table 13: Proposed capital expenditure by driver for each year of the regulatory period – non-network (\$'000) (nominal)

Driver	2015-16	2016-17	2017-18
Improvement	8,355	7,328	8,162
Renewal	4,855	5,107	6,401
Total	13,210	12,435	14,563

Table 14 sets out the five highest individual capital value projects or programs for non-network assets that will be substantially funded/completed during the next pricing period.

Table 14: Top five highest individual capital value projects for non-network assets during 2015-18

Project	Driver	Estimated Value	Description
Asset Management Information System (AMIS)	Improvement	\$12M	Installation of commercial off the shelf, fit for purpose AMIS that integrates to all major corporate functions and interfaces. Note: Partially funded from the third pricing period.
Fleet (Vehicles and Plant) Replacement Program	Renewal	\$9M	\$3M annual ongoing renewal program for vehicles and fleet to maintain field services capability.
Statewide Asset Safety Rectification Program	Improvement	\$6M	\$2M annual ongoing program to address safety risks identified throughout the business.
Minor Plant and Equipment Program	Renewal	\$5.4M	\$1.8M annual ongoing renewal program for minor plant and equipment to maintain field services capability.
Statewide Miscellaneous Minor Works Program	Renewal	\$4.5M	\$1.5M annual ongoing renewal program for unplanned minor asset renewals.

4.3.8. Total capital expenditure by asset class

The overall capital expenditure for the next three years by asset class is outlined in Table 15 below.

Table 15: Capital expenditure by asset class (\$'000) (nominal)

Asset class	2015-16			2016-17			2017-18		
	Water	Sewer	Non-Network	Water	Sewer	Non-Network	Water	Sewer	Non-Network
Headworks	11,278	\$5,863	-	26,196	11,542	-	27,632	11,935	-
Pipelines & Channels	4,886	\$11,121	-	1,757	8,592	-	3,343	13,821	-
Treatment	17,832	\$32,435	-	10,854	35,223	-	7,450	36,984	-
Corporate	3,274	\$100	13,210	3,358	44	12,435	4,213	58	14,563
Total	37,270	49,519	13,210	42,164	55,401	12,435	42,639	62,798	14,563

Note: at the lower levels there are some minor rounding errors in the capex tables, however the annual projected spend is \$100 million in 2015-16, \$110 million in 2016-17 and \$120 million in 2017-18.

4.4. Depreciation

4.4.1. Assumptions

The Price and Service Plan Guideline requires TasWater to calculate depreciation using the straight-line method based on the average useful life of regulated assets.

Table 16 sets out the asset lives and depreciation rates that the Economic Regulator has determined for water and sewerage assets.

Table 16: Average Asset Lives by Asset Class

	Average useful life Existing Assets (years)	Depreciation Rate (%)	Average useful life New assets (years)	Depreciation Rate (%)
Water	42.3	2.36	57.5	1.74
Sewerage	39.4	2.54	56.7	1.76

The asset lives and depreciation rates set out above have been used to calculate TasWater's annual regulatory depreciation. These values are used in the calculation of the projected regulated asset base over the regulatory period, which is detailed in Table 17. The regulatory depreciation is significantly higher than the accounting depreciation disclosed in the financial statements as the asset values used for accounting purposes have been impaired in accordance with relevant accounting standards to reflect their fair value based on future cash flows. It should be noted that accounting depreciation is calculated on a straight line basis using different average lives to those determined by the Economic Regulator.

4.5. Regulated asset base

4.5.1. Summary

TasWater's regulated asset base (RAB) represents those assets used to provide regulated water and sewerage services. The RAB is used to calculate the upper and statutory revenue limits.

The opening value of TasWater's RAB as at 1 July 2015 is anticipated to be just over \$3 billion. The Economic Regulator has determined this value by looking at the closing RAB values for 2014-15 for new assets and factoring in the difference between actual and forecast capex during the 2012-15 regulatory period.

It is important to note that the RAB is not a key determinant of revenue and pricing outcomes for the 2015-18 period. As is the case with the WACC, this will change over time as TasWater transitions towards the statutory revenue limit.

4.5.2. Exclusion of assets associated with unregulated activities

According to the methodology for exclusion of unregulated assets outlined in the Price and Service Plan Guideline, revenue generated from reuse assets has been excluded from the asset base. However, assets used for the provision of irrigation services have not been removed from the asset base as these services are provided by using excess winter capacity in the potable water system. That is, assets used to deliver water of drinking water quality would be no different in size even if TasWater were not providing water for irrigation purposes.

4.5.3. Exclusion of third party capital contributions (developer charges, service introduction charges and government grants)

Third party capital contributions including developer charges, donated assets, service introduction charges and asset additions fully funded from government grants have been excluded from the RAB values disclosed in Table 17.

4.5.4. Opening value of RAB

As stated in section 4.5.1, the opening value of TasWater's RAB as at 1 July 2015 is anticipated to be just over \$3 billion.

The opening value in each financial year (as at 1 July) is equal to the closing balance from the previous financial year. The closing balance for each financial year (as at 30 June) is calculated by taking the opening RAB value and adjusting it up for capital expenditure and down for depreciation, asset disposals and third party capital contributions.

Where possible asset additions are allocated to either water or sewerage based on their primary purpose. Corporate assets including IT equipment, vehicles and software are allocated based on the proportion of water and sewerage assets in the total RAB.

The following table shows the opening value of the RAB for each year of the 2015-18 regulatory period.

Table 17: Opening value of RAB (\$'000) (\$2014-15)

		Water	Sewerage	Total
1 July 2015	Opening RAB	1,598,931	1,416,795	3,015,726
	Additions	42,370	53,317	95,687
	Sales	-	-	-
	Depreciation – existing	(31,843)	(31,555)	(63,398)
	Depreciation – new	(4,558)	(3,486)	(8,044)
	Contributions	(10,118)	(3,778)	(13,896)
	Closing	1,594,782	1,431,293	3,026,074
1 July 2016	Opening RAB	1,594,782	1,431,293	3,026,074
	Additions	46,064	57,712	103,776
	Sales	-	-	-
	Depreciation – existing	(31,843)	(31,555)	(63,398)
	Depreciation – new	(5,230)	(4,399)	(9,629)
	Contributions	(5,562)	(3,778)	(9,340)
	Closing	1,598,211	1,449,273	3,047,484

		Water	Sewerage	Total
1 July 2017	Opening RAB	1,598,211	1,449,273	3,047,484
	Additions	47,612	65,266	112,878
	Sales	-	-	-
	Depreciation – existing	(31,843)	(31,555)	(63,398)
	Depreciation – new	(5,949)	(5,417)	(11,365)
	Contributions	(5,518)	(3,778)	(9,296)
	Closing	1,602,513	1,473,789	3,076,302

4.5.5. Projected average assets values (roll-forward of RAB) – calculated separately for water and sewerage

The RAB in each financial year is based on the average of the opening RAB and closing RAB. The forecast average balances, calculated separately for water and sewerage, in each year of the period are set out in Table 18.

Table 18: Projected average asset values for each year of the 2015-18 period (\$'000) (\$2014-15)

	2015-16	2016-17	2017-18
Average RAB – Water new	264,865	296,348	332,056
Average RAB – Water existing	1,331,991	1,300,148	1,268,305
Average RAB – Sewerage new	197,819	245,612	298,416
Average RAB – Sewerage existing	1,226,225	1,194,670	1,163,116

4.6. Return on capital (WACC)

Section 68(1A) of the Industry Act specifies that there will be one WACC for existing assets transferred to the former regional corporations prior to 1 July 2011 and another WACC for new assets purchased or constructed since 1 July 2009.

In its Price and Service Plan Guideline, and consistent with the approach that was adopted for the 2012-15 period, the Economic Regulator has adopted a building block approach for determining the WACC for the 2015-18 period. More specifically, a real pre-tax WACC will apply for the period.

The Price and Service Plan Guideline states that TasWater is to propose a value for each component that makes up the WACC (with the exception of the corporate tax rate, which is a given), and the Economic Regulator will consider the proposals and respond accordingly.

TasWater’s approach to determining the components and the values for each WACC was developed with the assistance of independent advice.

It is important to note that the WACC is not a key determinant of revenue or pricing outcomes for the 2015-18 regulatory period. Over time, with the requirement for TasWater to transition towards statutory limit revenue, the WACC will become more important with respect to its influence on revenue and prices.

4.6.1. WACC to apply to new assets (purchased or constructed since 1 July 2009)

The Price and Service Plan Guideline specifies that the WACC for new assets will be based on the following formula:

$$\text{New Assets WACC}_{\text{nominal}} = R_d \times R_e \times \left(\frac{1}{(1 - t(1 - \gamma))} \right) \times (1 - G)$$

$$\text{New Assets WACC}_{\text{real}} = \left(\frac{(1 + \text{WACC}_{\text{nominal}})}{(1 + i)} \right) - 1$$

Where:

- R_e = Cost of equity (post-tax)
= $R_d + \beta_e \times (R_m - R_f)$
- R_d = pre-tax cost of debt
- R_m = market return
- R_f = risk free rate
- t = corporate tax rate
- β_e = equity beta
- G = gearing ratio
- i = forecast inflation (annual average over regulatory period)
- γ = gamma

4.6.2. WACC to apply to existing assets (ie assets transferred before 1 July 2011)

The Price and Service Plan Guideline specifies that the WACC for existing assets will be based on the following formula:

$$\text{Existing Assets WACC}_{\text{nominal}} = (R_d \times G) + (Z \times (1 - G))$$

Where:

- Z = Statutory pre tax cost return on equity
replacing
 $R_e \times \left(\frac{1}{(1-t)(1-\gamma)} \right)$ in the new assets formula
- R_d = pre-tax cost of debt
- G = gearing ratio

4.6.3. Approved WACC components for 2015-18

The Economic Regulator has approved the following components for calculating the WACC for new and existing assets:

- Use the previous 2012-15 reset parameters for market return, equity beta, gearing, corporate tax rate and gamma (being 6%, 0.65, 60%, 30% and 50% respectively).
- Calculate the risk free rate as close as possible to the start of the second regulatory period. Using RBA data, the risk free rate is calculated as the simple average of:
 - the time weighted average of the previous 10 years of 10 year Commonwealth Government bond rates; and
 - the average of the previous 40 business days of 10 year Commonwealth Government bond rates.
- Calculate the debt risk premium as close as possible to the start of the second regulatory period. Using RBA data, the debt risk premium is calculated as the simple average of:
 - the time weighted average of the previous 10 years of the RBA's corporate credit spreads for BBB Australian non-financial corporations; and
 - the average of the previous two months of the RBA's corporate credits for BBB Australian non-financial corporations.

Table 19: Approved values for WACC components

Components	Approved 2015-18 Value [^]
R_e = cost of equity (post tax) (new assets)	7.18%
R_d = pre-tax cost of debt	5.81%
R_m = market return	6.0%
R_f = risk free rate	3.28%
t = corporate tax rate	30.0%
β_e = equity (beta)	0.65
G = gearing ratio	60.0%
i = forecast inflation	2.5%
γ = gamma	50.0%
Z = statutory pre tax return on equity (existing assets)	3.0%
Approved new assets WACC_{real}	4.26%
Approved existing assets WACC_{real}	2.13%

Note: Values for R_d and R_f (and consequently R_e) are as determined by the Regulator and specified in its Final Report.

4.7. Asset annuity (for lower revenue limit calculation)

The Asset Renewal Annuity (ARA) is an annualised calculation of the future asset renewal and replacement program required to maintain the operating capacity of infrastructure assets over the life of the regulated entity. The ARA is one building block of the lower limit revenue calculation (discussed further in section 4.8).

In order to calculate the ARA with accuracy and confidence, TasWater requires a detailed knowledge of its assets. Typically this information includes categorisation (asset type), date of purchase or construction, original cost, current replacement cost, assumed life, dates and amounts of refurbishment expenditures required during the life of each asset, and whether an asset will be replaced at the end of its useful life (and if so, when).

The Economic Regulator determined an annuity provision for the 2015-18 period of \$44.260 million, made up of \$15.756 million for water and \$28.504 million for sewerage.

Table 20: Asset annuity provision (\$'000)

	2015-16	2016-17	2017-18
Final annuity provision determined by the Economic Regulator	44,260	44,260	44,260

4.8. Lower revenue limit (sustainability)

Consistent with the National Water Initiative (NWI) prescribed pricing principles TasWater should recover revenue that is at least equal to the lower limit, which represents the minimum required to achieve sustainability, but not greater than the upper revenue limit, which represents full cost recovery.

The lower limit is the minimum amount TasWater requires to cover all costs of operation and therefore provides for operating and maintenance expenditure, debt servicing costs and an allowance for the cost of asset refurbishment, replacement and future augmentation. It does not provide for TasWater to earn a return on capital other than interest costs incurred and dividends paid.

The Economic Regulator has determined TasWater's revenue limits, and its final view of the lower limit revenue requirements for each year of the 2015-18 regulatory period is set out in Table 21.

Table 21: Lower limit revenue requirements (\$'000)(\$2014-15)

	2015-16	2016-17	2017-18
Efficient Operating Costs	149,746	150,046	150,446
Annuity provision	44,260	44,260	44,260
Interest on debt	21,728	23,836	28,119
Lower Limit Revenue	215,733	218,141	222,824

4.9. Upper revenue limit (full cost recovery)

As per the NWI pricing principles, the upper limit represents the revenue water businesses need to earn to fully recover their costs, including funding depreciation, and earn a commercial return on their assets. It is the maximum revenue water businesses can achieve.

The upper limit revenue calculation provides for operating and maintenance expenditure, depreciation and a commercial, risk adjusted, and return on capital. It is important to note that the commercial return here applies to all assets, regardless of whether they are 'existing' or 'new' for the purpose of calculating statutory revenue.

The Economic Regulator has determined TasWater's revenue limits, and its final view of the upper limit revenue requirements for each year of the 2015-18 regulatory period is set out in Table 22.

Table 22: Upper limit revenue requirement (\$'000)(\$2014-15)

	2015-16	2016-17	2017-18
Return on Assets ¹	128,596	129,271	130,341
Regulatory Depreciation	71,442	73,027	74,763
Efficient Operating Costs	149,746	150,046	150,446
Upper Limit Revenue	349,784	352,344	355,550

Note:

1. Return on assets for the purpose of upper limit revenue is based on a commercial rate of return on all assets (ie new assets WACC applied to all assets).

4.10. Statutory revenue limit

Section 68(1A) of the Industry Act requires the calculation of a statutory revenue limit, which is based on a separate WACC for existing assets transferred to TasWater up until 1 July 2011 (2.13 per cent as per section 4.6.3) and new assets purchased or constructed post 1 July 2009 (4.26 per cent as per section 4.6.3). It is the maximum revenue TasWater can earn.

As is the case with the upper limit calculation, statutory revenue provides for operating and maintenance expenditure and depreciation. It also provides for a return on capital; however, this is differentiated based on 'existing' and 'new' assets.

The Economic Regulator has determined TasWater's revenue limits, and its final view of the statutory limit revenue requirements for each year of the 2015-18 regulatory period is set out in Table 23.

Table 23: Statutory limit revenue requirement (\$'000)(\$2014-15)

	2015-16	2016-17	2017-18
Return on existing assets ¹	54,557	53,202	51,847
Return on new assets ¹	19,710	23,087	26,858
Efficient Operating Costs	149,746	150,046	150,446
Depreciation	71,442	73,027	74,763
Statutory Limit Revenue	295,455	299,362	303,914

Note:

1. Return on assets for the purpose of statutory revenue is based on the WACC for existing assets and the WACC for new assets.

4.11. Forecast revenue

At this time the revenue limit calculations described in sections 4.8, 4.9 and 4.10 above are theoretical for TasWater and do not represent the actual level of revenue TasWater expects to earn during the period.

A summary of the actual revenue TasWater expects to earn in each year of the 2015-18 period, broken down by source, is set out in Table 24. The table shows that TasWater's total regulated revenue is forecast to increase by an average of 5 per cent during the period.

Table 24: 2015-18 forecast revenue (\$'000)

Revenue Source	2015-16	2016-17	2017-18
Fixed Charges	206,866	219,741	231,431
Variable charges	51,398	54,666	57,990
Government grants	6,499	1,874	1,874
Revenue from Category 3 and 4 trade waste customers	8,000	8,300	8,500
Other revenue ¹	4,371	4,679	4,796
Forecast total revenue²	277,134	289,260	304,591

Notes:

1. Other revenue includes revenue received from miscellaneous fees and charges, new connections, development services assessment activities and other sundry items.
2. Revenue received from unregulated activities (including reuse and irrigation) is excluded from this calculation of forecast total revenue.

The total revenue set out in Table 24 shows that during the 2015-18 period TasWater expects to earn revenue that is moving towards the determined statutory limit revenue.

5. Demand Forecasting

5.1. Summary

Demand forecasting is an important element in planning TasWater's capital program as well as determining revenue and pricing outcomes for each regulatory period.

TasWater utilises a number of sources for growth projections including the Australian Bureau of Statistics (ABS), the Tasmanian Department of Treasury and Finance, specific council area studies, council land use strategies (to identify available residential and industrial land areas), and through specific discussions with councils and stakeholders.

The Economic Regulator, based on information released by the Tasmanian Department of Treasury and Finance in December 2014, has determined that an annual growth of 0.3 per cent per annum will apply over the 2015-18 period.

During the 2012-15 period a number of important initiatives, including the introduction of universal water metering, unwinding of free water allowances and starting to raise community awareness about water conservation could well have distorted demand growth. Demand forecasting will improve over time, particularly once all customers have transitioned to statewide variable water pricing (by the end of this period).

5.2. Key characteristics of customer base

Tasmania has a population estimated at 514,684⁶ persons as at March 2014. The State's population is projected to be almost 589,000 persons (under medium series forecasts) by June 2062, which equates to an average growth rate of 0.3 per cent⁶.

This population is ageing, more rapidly than in any other Australian state or territory, with older people making up the majority of the population. This trend is expected to continue until around 20256. The overall median age is 40 years.

TasWater provides water and sewerage services to many different communities, ranging from medium density hubs to rural townships, some of which include tourism areas with significant transient populations. The customer base is widely dispersed across the state, which has a relatively low population density at 7.5⁷ people per square kilometre (km²) compared to other states.

The majority of customers are located in the greater Hobart area⁸, which has a greater density distribution at 130 people per km², and other regional cities such as Launceston (which has a density of 7.2 people per km²). By contrast, the West and North West have a density of 5.1 people per km², with 1.6 people per km² in the South East. It should be noted that the population density of Hobart is much lower than other capital cities around the country.

According to the ABS there are 232,370 private dwellings in Tasmania with an average 2.4 people per household. There is only limited data available regarding the types and makeup of these dwellings, however analysis of 2013-14 performance data shows that over 92 per cent (185,293) of customers receiving a water supply are residential homes, with the remaining 8 per cent (15,219) being commercial and industrial

⁶ Source: Tasmanian Department of Treasury and Finance, *2014 Population Projections Tasmania and its Local Government Areas*, December 2014.

⁷ ABS 3218.0 Population

⁸ Hobart capital city is defined as greater Hobart in line with the ABS statistical area definition, which comprises Brighton, Clarence, Derwent Valley part A, Glenorchy, Hobart, Kingborough part A and Sorell part A.

properties⁹, health and care facilities, sporting grounds and parks (among others). This is closely aligned with the split of customers serviced by a sewerage system, which sits at almost 93 per cent for residential homes and just over 7 per cent for non-residential properties.

With respect to weekly disposable income, Tasmanian households recorded the lowest of any state across the country in 2012-13. This is shown in Figure 8.

Figure 8: State by state comparison of weekly disposable household income in 2012-13



Source: ABS 6523.0 - household income and income distribution, Australia, 2011-12

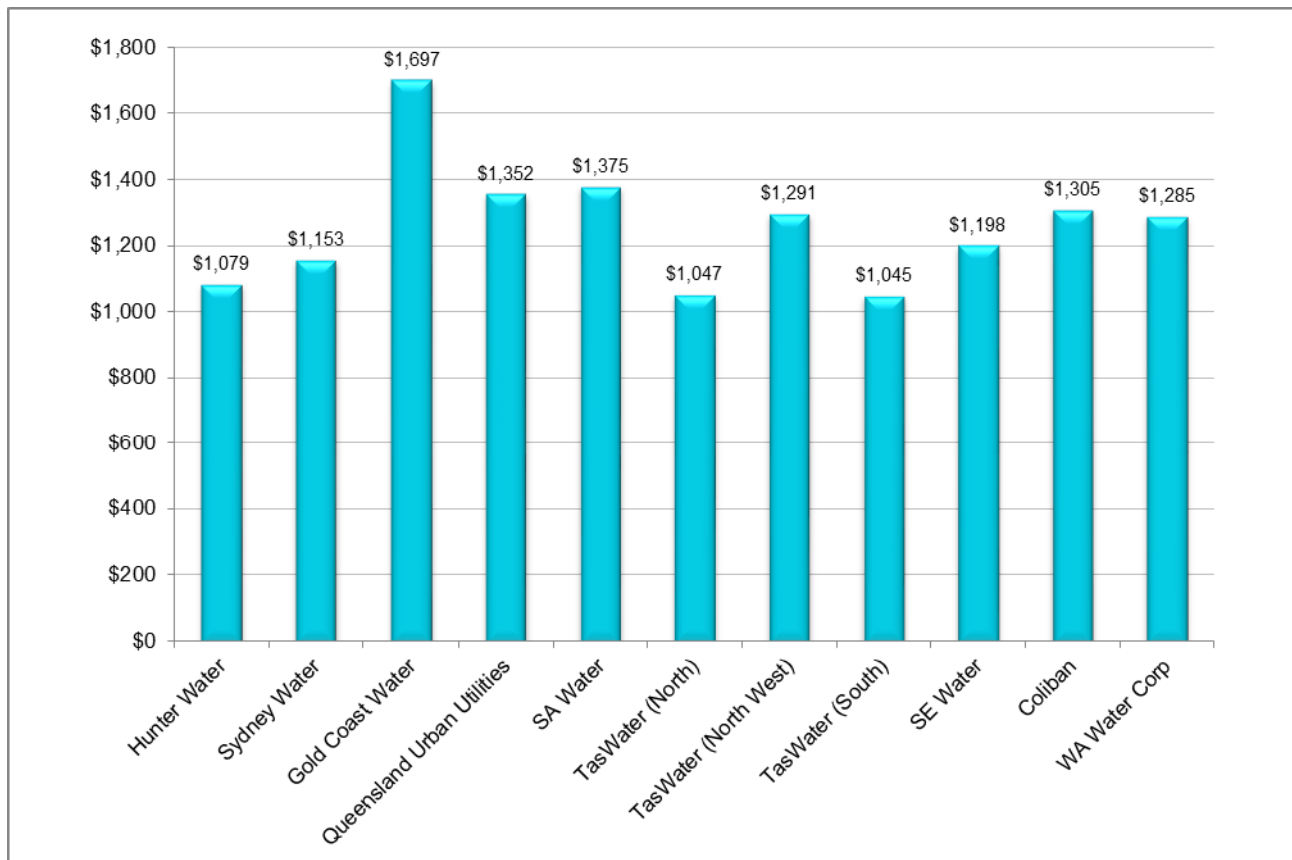
With these disposable income statistics in mind, and in an environment where other utility costs are also rising, TasWater is aware that future water and sewerage prices and transition arrangements are of particular significance for our customers. This view was reinforced in feedback TasWater has received from customers and customer representative organisations.

Under the pricing arrangements approved by the Economic Regulator and set out in this Price and Service Plan water and sewerage charges could, on average, make up 2.5 per cent of household disposable income in Tasmania by 2017-18. This will remain less than other essential services such as housing and electricity, but nonetheless is a significant impost in a community where average incomes are low.

A comparison of residential total average water and sewerage bills with other urban based jurisdictions, based on 200kL of water usage per annum, are displayed in Figure 9 below.

⁹Under the NWI definitions these customer numbers exclude service connections (unconnected, vacant properties).

Figure 9: Other Australian urban residential total bill averages 2014-15



As can be seen from the above chart TasWater’s charges as at 2014-15 are not out of step with other prices across the country, and those approved by the Economic Regulator for the next three years are considered not unreasonable given the ongoing capital expenditure requirements and long-term sustainability.

Based on the prices set out in this Price and Service Plan, the total bill for a Tasmanian residential customer paying target prices for fixed water and sewerage services and consuming 200kL of water per annum, for 2015-16 will be \$1,086.38. The charges that underpin this amount are an important part of TasWater being able to meet its compliance obligations and improve the level of service provided to customers.

5.3. Customer classes

TasWater has adopted several customer classes to reflect differing levels of service. With the exception of trade waste customers, these classes are the same as those in place for the 2012-15 period.

With respect to trade waste customers, TasWater has refined the categories using an improved technical and commercial risk assessment of trade waste impacts on the sewage system as the basis for categorisation and calculation of trade waste charges. More specifically, Category 2 has been split into three to more accurately categorise trade waste customers according to their demand on the sewer system.

TasWater’s customer classes, as approved by the Economic Regulator, are as follows:

- Full Service Water Customers
- Limited Water Quality Customers – those customers receiving water from a supply, which has a permanent boil water alert in place, is subject to a Do Not Consume notice issued by the Director of Public Health or customers receiving water from a supply TasWater has declared to be limited water quality

- Limited Water Supply Customers:
 - Connected to a water main that periodically does not contain water under positive pressure
 - Have a water 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
 - Are connected to a non-reticulation water main that is subject to significant pressure variations due to either a pumped supply where the low pressure is below 50kPa and the high pressure is above 500kPa, or an inlet supply to a trunk reservoir such that when the reservoir inlet valve is open the pressure is below 50kPa
 - Receive a supply that TasWater determines to be inadequate
- Combined Limited Water Quality and Limited Water Supply
- Full Service Sewer Customers
- Septic Tank Effluent Disposal Service Customers
- Fire Service Customers
- Customers with unconnected properties
 - Water service charge; and/or
 - Sewerage service charge (equivalent to 60 per cent of the fixed sewerage charge per ET).

The forecast customer numbers by class are set out in the following table. The 0.3 per cent growth factor as determined by the Economic Regulator has been applied to estimate the number of customers for each year of the 2015-18 regulatory period.

Table 25: High level summary of customer numbers

Customer Class	2015-16	2016-17	2017-18
Full service water	210,392	211,022	211,655
Limited water quality	2,855	2,864	2,872
Limited water supply	527	529	530
Full service sewer	186,793	187,353	187,915
Septic Tank Effluent Disposal service	500	502	503
Fire service	2,081	2,088	2,095

It should be noted that the forecasts set out in Table 25 do not reflect the impact of TasWater’s capital program over the same period. This means that where a system is upgraded during the period and customers go from receiving a limited water supply or limited water quality supply to receiving a full service, that change is not reflected in the forecast customer numbers.

5.4. Minimum flow rates

For the purposes of defining minimum pressure and flow rates for demand forecasting TasWater refers to the *TasWater Supplement to Water Supply Code of Australia WSA 03-2011-3.1 MRWA Edition V2.0*¹⁰ (TasWater Supplement).

From 1 July 2015 the TasWater Supplement specifies the minimum pressure and flow at a standard 20 mm connection point as follows:

- The minimum pressure¹¹ during peak demand is:

¹⁰ Refer to TasWater’s website for a copy of the TasWater Supplement.

¹¹ Refer to section 2.5.3.3 (Minimum service pressure) within the TasWater Supplement.

- 220 kPa (22 metres) for residential flat grade properties ($\leq 18\%$ slope)
- 250 kPa (25 metres) for residential steep grade properties, or non-residential customers
- The minimum flow rate¹² during peak demand is 15 litres per minute.

For the purpose of identifying Serviced Land, a desktop assessment approach was utilised, employing more conservative figures within its methodology to allow for errors and inaccuracies in the asset data (refer to section 8.1.3 for further information).

If a customer receives a water supply below the minimum pressure and flow rates as specified in the TasWater Supplement, they shall receive a discounted fixed water charge consistent with section 6.5.1.

5.5. Customer growth assumptions

As discussed earlier in the chapter, through the 2015-18 period the Economic Regulator has determined a growth factor of 0.3 per cent for each year in the period.

While the 0.3 per cent is a state-wide average, there will be areas throughout the state that experience higher growth and there will also be areas that experience nil growth.

It should also be noted that Tasmania has a large influx of tourists annually, with somewhere in the order of 900,000 to 1 million customers annually placing seasonal demand on water and sewerage services, particularly on smaller isolated systems such as on the east coast.

For this period, given there is little historical data relating to any industrial or climate factors of significance, the growth factor is the key driver for TasWater's increasing volumetric demand.

As TasWater's customer water consumption data improves over time it is anticipated that a greater degree of analysis around the growth of residential and commercial and industrial sectors will lead to further optimisation of the capital planning and investment process.

5.6. Water supply planning framework

At present, demand forecasting is incorporated into the development of major capital expenditure projects.

TasWater is planning to implement a robust demand analysis process as part of the inaugural Strategic Asset Management Plan (SAMP), which will be completed by June 2015. The SAMP will outline the factors involved in addressing the challenges of defining and delivering a level of service that balances the needs of the customers with the asset's long-term ability to deliver these services.

As discussed previously, many of the capital projects are based on compliance drivers that will ensure treatment plants meet legislative and regulatory obligations. Although the primary driver for much of the capital works program is compliance, analysis of likely growth is incorporated to ensure the best long-term solution.

Factors affecting demand are not only related to population change, but also include changes in demographics, seasonality, climate change, consumer tastes and expectations, economic factors, agricultural practices and environmental awareness.

The ongoing development of water and sewerage modelling to forecast demand and its effect on current and proposed infrastructure is a priority for TasWater. It is important to note that the use of such models depends on land use planning and development trends, which are subject to change over time.

¹² Refer to section 2.12 (System review) within the TasWater Supplement.

5.7. Water volume forecasts

A demand model was created for the development of TasWater’s Price and Service Plan to provide a forecast of expected water usage. It used available 2013 consumption data and applied the proposed connection growth factor.

TasWater has updated the forecasts to reflect the growth factor of 0.3 per cent as determined by the Economic Regulator. As a result, TasWater is forecasting overall total consumption of 58,312ML by the end of 2017-18, as set out in Table 26. The table also includes the forecast number of equivalent 20mm water connections in each year.

Table 26: Forecast water connections and volume for each year of the 2015-18 regulatory period

	2015-16	2016-17	2017-18
No of equivalent 20mm connections	255,278	256,044	256,812
Total water volume (ML)	57,964	58,138	58,312

With respect to average water consumption for a typical 20mm water service, which encompasses both residential and some non-residential customers, TasWater has assumed a figure of 200kL per annum where consumption has had to be estimated. This is a continuation of the approach adopted in 2012-15.

TasWater expects this assumption will be revisited for the next pricing period when more data is available. This will enable TasWater to determine whether there are any significant year-on-year variations that can be attributed to pricing, climate or demographic changes.

It is also important to note that TasWater has a number of allocation licences from DPIPW that allow TasWater to take water directly from a stream or store it in a dam for supply to our water systems.

These allocations are continually reviewed by TasWater and DPIPW with a view to ensuring that the extraction points of water allocations endorsed on licences are correctly designated in terms of extraction location and specific resource from which the water is taken, and the quantum is reflective on the historical entitlement. These allocations may need to be adjusted as water demand and supply scenarios change over time.

While in general the overall water allocated exceeds water consumption, there are some discrete water systems that are resource constrained during certain periods of the year, for example those on the east coast during periods of drought and high unseasonal influx of tourists.

The water catchments of Lake Fenton, Mount Wellington and the Derwent River account for the largest allocated volume.

5.8. Sewage volume forecasts

As discussed in further detail in Chapter 6, TasWater is continuing to use the Equivalent Tenement (ET) methodology to determine its sewerage charges.

The 0.3 per cent growth factor for the period as determined by the Economic Regulator equates to an increase of just over 700 ETs per year. From a volume perspective, it is anticipated that almost 50,000ML of sewage will be treated in 2015-16.

Table 27: Forecast sewerage connections and volume for each year of the 2015-18 regulatory period

	2015-16	2016-17	2017-18
No of Equivalent Tenements	238,967	239,684	240,403
Total forecast sewerage volume (ML)	49,944	50,094	50,244

5.9. Trade waste forecasts

For price regulated trade waste customers, TasWater has determined the volume of trade waste discharged to sewer by using:

- water consumption data for the 2012-13 year
- base volume (BV) which is equivalent to 80 per cent of the annual potable water meter consumption¹³ for the property receiving the trade waste service
- discharge factors (DF) which reflect a percentage of metered water consumption considered to be trade waste discharged to sewer.

More specifically, the following formula is used:

$$\text{Trade Waste Volume} = (\text{FY12/13 water consumption} - \text{DR}) \times \text{BV} \times \text{DF}$$

With respect to each of these components, the potable water consumption data for 2012-13 has been used as it provided the highest number of properties with available water consumption data due to increased installation of meters over the previous 12 months.

Discharge factors are applied to the base volume (BV) to represent the typical volume of trade waste expected to be discharged dependent on the business activity, assuming the base volume (BV) includes both a trade waste and domestic portion.

The Liquid Trade Waste Regulation Guidelines – Appendix G published by the NSW Department of Water and Energy in April 2009 provides standard discharge factors for typical low risk trade waste customer business activities. These discharge factors have been directly matched to the relevant trade waste codes used by TasWater where applicable. Where a direct match was not available or additional assumptions have been made the justification for each decision has been noted in the Trade Waste Customer Category Guideline available on TasWater’s website.

With respect to volumes, consumption data in respect of water of drinking water quality is available or can be interpolated for more than 90 per cent of the customer base. To enable the volume data to be used across the entire customer segment TasWater has applied the following assumptions and rules:

- A default 200kL per annum has been applied to all properties where consumption data was unobtainable, based on a typical 20mm water connection. This is based on the applied rules for the calculation of wastewater to sewer for 1 ET
- The average of the calculated trade waste volume for category 1 (115kL/a) and 2A (185kL/a) is taken as the typical expected discharge volume from customers in each category and therefore used to calculate the applicable target tariff for each category (refer to Table 55)
- The average of the calculated trade waste volume for category 2B and 2C is disproportionate to the typical expected discharge volume for these customers. To allow trade waste department sufficient time to investigate and clarify accurate volumes for these customers the trade waste discharge volume for category 2B and 2C has been lowered and capped at 300kL/a and 500kL/a respectively (refer to Table 28).

¹³ Consistent with TasWater’s Supplements to the WSAA Water Supply Code and WSAA Sewerage Code.

- Where multiple properties are supplied by the same meter the potable water volume is divided equally among the properties serviced.
- Where a domestic residence (DR) is also connected to the same meter as the business, an allowance of 200kl will be subtracted from the water consumption before the base volume and trade waste discharge factor are applied.

Trade waste customer numbers, deemed trade waste discharge volumes and total annual demand by category are shown in Table 28.

Table 28: Deemed trade waste discharge volumes by category

Trade Waste Category	Number of Customers	Trade Waste Discharge Volume (kL/A)	Total Annual Demand (ML/A)
1	869	115	100
2A	2,104	185	389
2B	243 ¹	300	73
2C	251 ¹	500	126
Total Demand			688

Note:

1. Category 2B and 2C trade waste discharge volumes have been capped at 300kL/a & 500kL/a respectively pending further investigation of these customers to determine accurate base volumes.

TasWater will investigate and collect additional data during the 2015-18 regulatory period to improve the accuracy of the trade waste discharge factors.

5.10. Lot growth forecasts

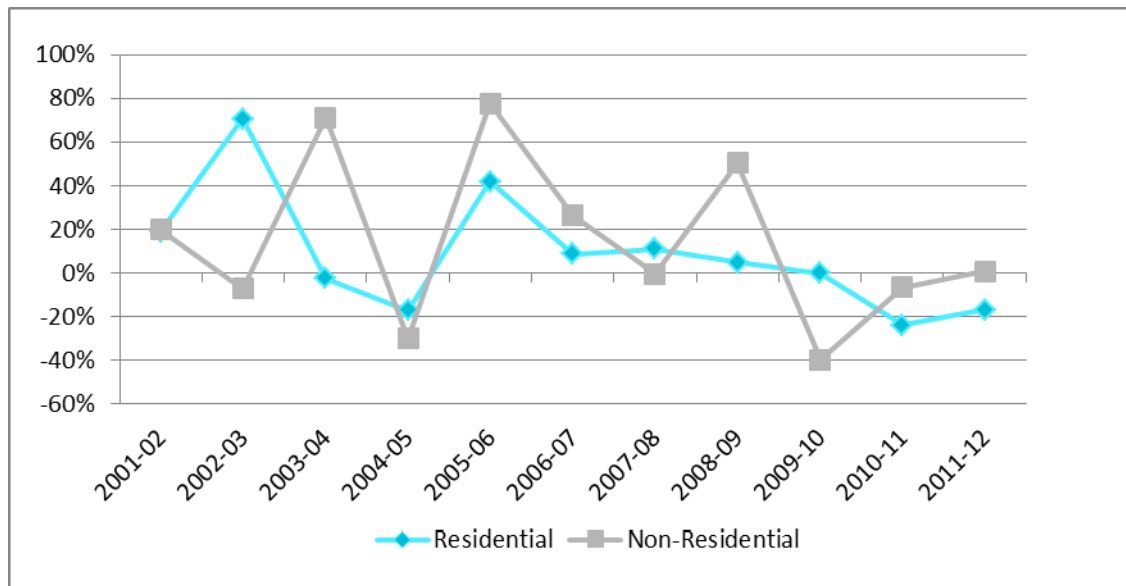
Building approvals is one of several factors TasWater takes into account in forecasting new connections.

This data relates to the number and value of residential and non-residential building approvals and is based on information provided by approving authorities including:

- permits issued by local government authorities and other principal certifying authorities
- contracts let or day labour work authorised by commonwealth, state, semi-government and local government authorities
- major building approvals in areas not subject to normal administrative approval eg building on remote mine sites.

Tasmanian building approvals data for the 10 year period from 2001-02 to 2011-12 is shown in Figure 10.

Figure 10: Percentage change in Tasmanian building approvals



Source: Australian Bureau of Statistics, Building Approvals, Cat. 8731.0.

The uncertainty in Tasmania associated with the continuation of the First Home Builders Boost, unemployment levels, and the relative low levels of residential approvals since 2009/10 would indicate that building approvals do not translate linearly to TasWater’s overall customer growth as it is only one of many factors that is taken into account. As discussed throughout this chapter, the Economic Regulator has determined that a growth factor of 0.3 per cent will apply for each year of the 2015-18 period.

In relation to new connections, TasWater is forecasting 337 new residential water connections and 276 new sewerage connections in 2015-16. Forecast new connections for the remainder of the regulatory period are set out in Table 29.

Table 29: Forecast water and sewerage new connection forecasts for 2015-18

Connection type	2015-16	2016-17	2017-18
Residential lots	337	338	339
Non-residential lots	276	277	278

With respect to growth ‘hotspots’ across the state, TasWater has seen continued growth in the Brighton, Clarence and Kingston municipalities in the South, and Newnham, Kings Meadows and Legana in the North.

Recent planning approvals sighted by TasWater indicate that Penna/Midway Point, Lindisfarne, Waverley, and Grindelwald are growth areas, with substantial infill development expected in Greater Hobart.

In the North West, the main growth area is the Latrobe municipality, specifically Port Sorell and Latrobe. There has been a recent rezoning at Port Sorell to allow some 600 new lots, with 204 approved earlier this year. Growth can also be expected to continue in Wynyard with 100 lots approved, and approval pending for a further 150 lots.

With respect to commercial developments, recent approvals include large scale student accommodation in the Hobart CBD and Burnie, as well as the silos redevelopment in Launceston, are anticipated to commence in the 2015-18 period.

It is important to note that recent approvals do not indicate when works will commence or indeed new connections will materialise; however, TasWater expects that many of these developments will proceed in the medium term.

5.11. Miscellaneous fees and charges transaction forecasts

TasWater provides a range of one off services which are collectively known as miscellaneous fees and charges.

TasWater's forecast number of transactions for each of these services for each of the next three years are set out in Table 30. Forecasts for the 2016-17 and 2017-18 years have been calculated based on the 0.3 per cent growth factor determined by the Economic Regulator.

Table 30: Miscellaneous transaction forecasts for 2015-18

Transaction type	2015-16	2016-17	2017-18
Special read	5,100	5,115	5,131
Land Information Certificate (56ZQ) request	7,000	7,021	7,042
Section 56W consent	140	140	141
Service Locator Fee	492	493	495
Pressure & Flow Testing	5	5	5
Property Information Plan	3	3	3
Restriction Charge	350	351	352

The approved fees and charges for each of these services are set out in section 6.10.

5.12. Demand management initiatives

TasWater's demand management initiatives are focused on providing advice to customers to assist in reducing water use. Initiatives include Tasmania House and Garden Water Use Calculator, which can be accessed by customers on TasWater's web site.

This calculator takes customers through regular home environment and quizzes customers about their use. Throughout and at the end of the calculator, customers are provided with tips on how to minimise water use in each part of the home and garden and an analysis of how much they use with context about average use.

Between December 2013 and May 2014, 1,300 users (approximately 6 per cent of TasWater's customer base) accessed and used the calculator, spending an average of 20 minutes on this service. This calculator will continue to be made available and planning is underway to increase promotion of the calculator's availability.

WaterSense is TasWater's current program of communication providing advice to customers to help reduce water use. TasWater's web site contains detailed information, including four fact sheets around reducing water use in the home and garden by addressing leaks and selecting appropriate appliances. Information is also disseminated through TasWater's quarterly customer newsletter.

Working with the Royal Tasmanian Botanic Gardens, TasWater also developed numerous fact sheets and videos for gardeners and over the coming year further opportunities to widen the scope of the campaign will be considered.

6. Pricing

6.1. Summary

Pricing for the 2015-18 period is underpinned by a number of key assumptions, including statewide postage stamp pricing where all customers pay the same price for the same service irrespective of their location.

The ET methodology continues to be used as the basis for calculating sewerage charges and service charges will also continue to be levied on vacant land that is able to connect to TasWater's water and/or sewerage infrastructure.

The Economic Regulator has decided that fixed water target charges will be held constant at a rate of \$329.48 during the period, and that all customers above target fixed pricing for water and/or sewerage at the start of the period will be brought straight down to target on 1 July 2015.

The Economic Regulator has approved increases to fixed sewerage target charges by 6 per cent each year, and variable water target charges by 2.5 per cent annually.

Further, the Economic Regulator has approved pricing transition parameters that will see the vast majority of customers reach target pricing by 2017-18.

6.2. Regulatory pricing framework

TasWater has an operating licence, issued under the Industry Act, to own and operate water and sewerage infrastructure and to provide water and sewerage services. These services have been declared as regulated services, as customers receiving services through TasWater infrastructure cannot access the service from a competitor.

Stormwater services, water recycling services and reuse services are not regulated services and therefore not subject to price regulation.

Section 68 of the Industry Act and the Pricing Regulations set out the pricing principles with which TasWater must comply in building prices for the regulated services it provides. Together, this legislation contemplates:

- the recovery of efficient costs in providing regulated services and complying with regulatory obligations
- prices that provide effective incentives to promote economic efficiency, reduce costs or otherwise improve productivity with respect to a regulated service
- cost reflective pricing for the provision of regulated services, to the extent that it is commercially and technically reasonable
- two-part pricing for water services based on the recovery of fixed costs and variable costs
- prices that allow for a return on assets that are required in the provision of the regulated service to which those prices relate.

Among other requirements, the Regulations¹⁴ require TasWater to fully comply with the pricing principles by 1 July 2020. The practical implication of this is that TasWater needs to transition all customers to statewide, uniform prices by that time.

A key consideration in the transition is the need to manage the impact of price changes on customers while ensuring the ongoing financial sustainability of the business.

¹⁴ More specifically, regulation 32 of the *Water and Sewerage Industry (Pricing and Related Matters) Regulations 2011*.

Further detail on TasWater's regulated services, their sub-elements, the rationale behind the structuring of tariffs and the target tariffs for 2015-18 are discussed throughout this chapter.

6.2.1. Price Reform Priorities for 2015-18 Regulatory Period

The Economic Regulator specified its price reform priorities for the second regulatory period in the Price and Service Plan Guideline¹⁵.

The Economic Regulator's priority objectives for the period, which were determined based on inequitable pricing structures and TasWater's financial position, are:

- Continuing to transition customers to a rational price structure consistent with NWI pricing principles
- Transitioning customers paying above the target tariff towards the target tariff
- Continuing to transition all other customers towards the target tariff
- Generating revenue that, at a minimum, equals the lower revenue limit to achieve sustainability
- Managing the impact of price changes on customers

The Economic Regulator has acknowledged that while achieving these objectives during the second regulatory period is desirable, more time may be required for this to occur.

6.3. Rationale behind structure of regulated services and tariffs

6.3.1. Regulated services

The Industry Act defines regulated services as follows:

Water service means a service that is provided in connection with the collection, storage, treatment, conveyance, reticulation or supply of water and includes a retail service for the supply of water but does not include:-

- (a) Supply or use of water for irrigation purposes; or
- (b) Supply or use water in connection with the generation of electricity.

Sewerage service means:-

- (a) a service that is provided in connection with the collection, storage, treatment, conveyance or reticulation of sewage and includes a retail service for the collection of sewage; or
- (b) any other service declared to be a sewerage service by the Minister by order.

As detailed in section 6.3.4, each of these services has a number of sub-elements for which separate charges apply.

The cost of providing each regulated service can be broadly split into the annual charges customers pay for turning on the tap or flushing the toilet, and the one-off fees and charges customers pay for water and sewerage related services, for example a fee to connect to TasWater's water and sewerage infrastructure.

6.3.2. Unregulated services

Unregulated services are those that are not subject to regulation under the Industry Act or declared by order of the Minister for Primary Industries and Water to be unregulated. They include water for irrigation; reuse water and stormwater services via a combined sewerage stormwater system.

¹⁵ Refer section 4.2 of the Tasmanian Water and Sewerage Industry, 2014-15 Price Determination Investigation, Price and Service Plan Guideline, November 2013.

TasWater is required to recover the costs of, and returns on, assets used to provide unregulated services (that is, unregulated assets) from the persons utilising those services rather than from the regulated customer base.

Pricing for unregulated services is not covered by this Price and Service Plan and the revenues, costs and assets relating to unregulated activities have accordingly been excluded from this plan to ensure they are not cross-subsidised by regulated customers. More detail of the range of unregulated services is provided in section 6.11.

6.3.3. Pricing zones

During the 2012-15 period, postage stamp pricing applied in Tasmania on a regional basis, with one set of target prices for the North, one set for the North West and one set for the South.

For the 2015-18 period the Economic Regulator has approved one pricing zone apply for the whole state with one statewide 'target price' for each service. There are a number of specific reasons that justify the appropriateness of postage stamp pricing, particularly within the Tasmanian context:

- the concept of paying the same price for the same service is generally viewed as equating to an equitable outcome for an essential service
- uniform pricing is simple to understand, particularly given the many different pricing arrangements which previously existed in Tasmania
- many small towns could not afford to pay the real costs associated with operating and maintaining small water supply and wastewater treatment systems, thereby rendering the systems unsustainable (this is not unique to Tasmania)
- the administrative cost of developing a complex nodal (system by system) pricing system, which would in all likelihood require data of a level that TasWater does not yet have, is prohibitive.

As discussed in Chapter 2, the concept of postage stamp pricing was raised through the targeted stakeholder consultation undertaken in early 2014. There was solid support across all regions for a single statewide target price for each service, with a general feeling that postage stamp pricing made it fair/equitable for everyone and that with one water authority, one price made sense.

TasWater's target prices for fixed water charges, variable water charges and fixed sewerage charges for 2015-18 have been developed, and approved by the Economic Regulator, to apply on a statewide basis.

6.3.4. Regulated tariff structure

There are three main categories of regulated charges: water, sewerage (including trade waste), and other fees and charges. The elements of each of these categories are set out below.

Figure 11: List of Regulated tariffs, fees and charges by category

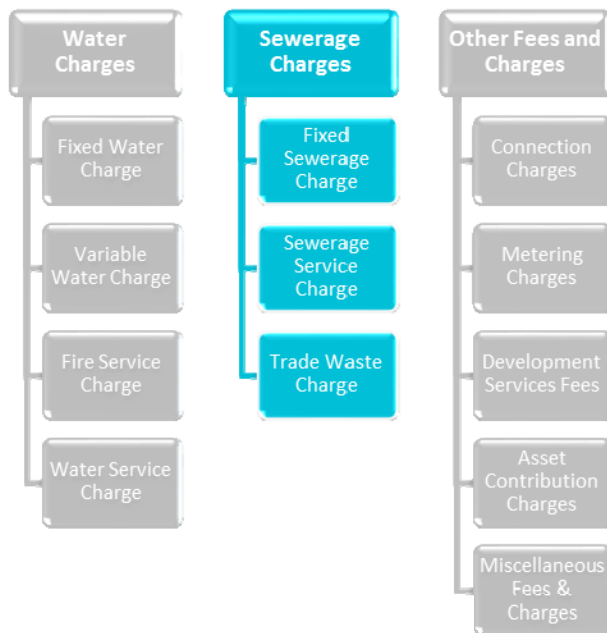


Table 31: Description of regulated tariffs, fees and charges by category

Fee/Charge	Description
Water <ul style="list-style-type: none"> - Fixed water charge - Variable Water charge - Fire service charge - Water service charge 	Annual charge contributing to the maintenance and replacement of water infrastructure Charge per kilolitre for water usage, split between water of drinking water quality and water that is not of drinking water quality Annual charge for the provision of capacity to support fire fighting in private buildings Annual charge for the ability to connect to TasWater’s infrastructure where a physical connection may not be in place (vacant land charge)
Sewerage <ul style="list-style-type: none"> - Fixed sewerage charge - Trade Waste charges - Sewerage service charge 	Annual charge covering infrastructure maintenance and flow contributed to the sewerage network Annual fixed charges covering administration, auditing, infrastructure maintenance and demand on the sewerage network depending on the category of the customer. Annual charge for the ability to connect to TasWater’s infrastructure where a physical connection may not be in place (vacant land charge)
Other Fees and Charges <ul style="list-style-type: none"> - Connection Charges - Metering Charges - Development Services Fees - Asset Contribution Charges - Miscellaneous Fees and Charges 	Cost recovery charges levied for connecting to TasWater’s water or sewerage infrastructure, or disconnection from our infrastructure Cost recovery charge levied for items such as special meter reads, meter testing and meter relocation Cost recovery charges levied for TasWater’s assessment of development applications, certificates for certifiable works and post development compliance assessments Cost recovery charges levied to cover the cost of the expansion of TasWater infrastructure required to support development or the consumption of excess infrastructure capacity (includes developer charges and service introduction charges) Cost recovery charges levied for a number of sundry fees such as location of services and pressure and flow testing

As discussed in section 5.3, TasWater has adopted four customer classes to reflect whether a customer is receiving full service, limited water quality, limited water supply or a combination of limited water quality and limited water supply.

Pricing arrangements differ for these customer classes and the specific detail is set out in sections 6.5 and 6.8.

6.4. Pricing transition objectives and price constraints

The Economic Regulator has determined that:

- **Customers above target fixed water and sewerage pricing** at the start of the period will be brought straight down to target on 1 July 2015
- **Residential customers below fixed target charges** at the start of the period will see a maximum annual increase to fixed charges (water and sewerage combined) of \$100, or 10 per cent, whichever is the greater, until both targets are reached
- **Non-residential customers¹⁶ below target** will see the combined \$100 side constraint increased in proportion¹⁷ to the meter size or number of ETs
- **Customers below target variable rates** will see equal yearly increases across the three years of the period so that they arrive at the target rate by 2018
- **Trade waste customers** will transition to target by going up or down by 1/3 of the gap to the 2018 target in each year through the regulatory period if they are above or below target respectively
- **Fire service customers** will transition to target by going up or down by 1/3 of the gap to the 2018 target in each year through the regulatory period if they are above or below target respectively.

The combined water and sewerage fixed charge annual increase of \$100, or 10 per cent, whichever is the greater, aims to ensure that those customers who have current charges which remain well below target tariffs transition more quickly to their target tariffs.

The arrangement is very similar to the arrangements that were in place for 2012-15; however it is not limited to a \$50 maximum for each service. For example, this means that a customer who is \$80 below target on water and \$20 below target on sewerage will reach target for both services in the next year, compared with the previous arrangements that would have resulted in only the sewerage charge reaching target in the following year.

It is important to note that the maximum increase of \$100 or 10 per cent, whichever is the greater, applies to fixed water and sewerage charges only and it does not include the variable charge.

These side constraints will continue to apply throughout the period until a customer reaches their applicable target tariffs. Once customers are at target tariffs their prices will move in line with the approved annual increase in the relevant charge. The annual increase in target fixed charges for sewerage services is 6 per cent, which is a continuation of the approach that was approved for 2012-15, while variable water target charges will increase by 2.5 per cent. In line with the Economic Regulator's 2015 Price Determination, fixed water target charges will remain flat during the period.

6.5. Water charges

As set out in section 6.3.4 above, TasWater levies four types of water charges being fixed water charge, variable water charge, fire service charge and water service charge.

¹⁶ Non-residential customers are those with larger than 20mm water connections and greater than 1 ET sewerage charge.

¹⁷ Scaling factors for customers with larger meter sizes are set out in section 6.5.1.

With the exception of water service charges, which are discussed in more detail in section 7.4, the prices for each of these charges for each year of the regulatory period, together with an explanation as to how they have been determined, are set out in this section. A discussion regarding the weighting of fixed and variable charges is also included.

6.5.1. Fixed water charges

Fixed water charges reflect the costs of providing water services to a property, including the cost of maintaining and upgrading assets, which are independent of the amount of water supplied.

Fixed water charges for full service customers are based on the size of a property's metered water connection. This approach is used in many other jurisdictions around Australia and is accepted as best practice.

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. Scaling factors for water connections are set out in the following table, which shows that a standard 20mm metered connection is used as the base factor with a ratio of 1.00.

Table 32: Scaling factors for fixed water charges

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

The fixed water target charge for each connection size is calculated by multiplying the relevant scaling factor by the target fixed water charge for a 20mm water connection.

The approved fixed water target charges per connection for full service customers are set out in Table 33. Unlike the charges for most other regulated services, there is no escalation in fixed water target charges over the period.

Table 33: 2015-18 Fixed water target charges per connection (\$)

Water Connection Size	2015-16	2016-17	2017-18
20mm	329.48	329.48	329.48

Note: These charges apply to customers with a standard 20mm connection. Customers with larger connections need to apply the connection size multipliers contained in Table 32 to calculate their individual target charges for each year of the regulatory period.

As previously discussed, a percentage of customers receive a service that TasWater considers limited due to pressure and/or flow related issues.

TasWater applies a 10 per cent discount to the fixed water target charge for these customers to reflect the deficiency in the local water reticulation infrastructure, which the customer should not be expected to pay for.

As these charges are linked to the fixed water charge for full service customers, there is also no escalation in the charges over the period. The fixed water target charges per connection for limited supply customers are set out in Table 34.

Table 34: 2015-18 Fixed water target charges per connection for limited water supply customers (\$)

Water Connection Size	2015-16	2016-17	2017-18
20mm	296.52	296.52	296.52

Note: These charges apply to customers with a standard 20mm connection. Customers with larger connections need to apply the connection size multipliers contained in Table 32 to calculate their individual target charges for each year of the regulatory period.

6.5.2. Variable Water charges

Variable charges reflect water supply costs which change over time, including electricity and pumping costs and the cost of chemicals used to treat water.

TasWater is guided by the Pricing Regulations and the Economic Regulator’s Price and Service Plan Guideline in proposing variable charges.

As a minimum, a variable water charge for a property must at least cover the cost of delivering water to that property. However, the variable charge can be greater under certain circumstances, including if:

- there are constraints on the amount of water supply available or the capacity of treatment plants/infrastructure
- it is desirable to do so to reduce the demand for water
- the Economic Regulator believes the charge rate should be greater than the cost of provision to enable funds to be recouped that the business may not otherwise receive.

TasWater’s approved target variable water charges for the 2015-18 period continue to be set on a similar basis to that used for 2012-15. This means that variable charges are above the cost of supplying water of drinking water quality.

The variable component of a customer’s water bill is determined based on volume consumed per kilolitre (kL) as determined by metered usage. This means that a customer will pay extra if they use more water and vice-versa in the event they use less.

As previously discussed, TasWater has a number of customers across the state who receive water from a supply which has a permanent Boil Water Alert or Do Not Consume Notice in place or has been declared by TasWater to be limited water quality. These customers are classed as limited water quality and will receive a lower variable rate. A 20 per cent reduction is applied to the full variable rate to reflect that limited quality water goes through a reduced treatment process (meaning there are nil or minimal treatment/chemical costs in the supply process).

Limited water quality customers are still required to pay the full fixed water charge unless they also receive a limited supply. Where a customer has both limited water supply and limited water quality, they are entitled to both the discounted fixed water charge for limited water supply and the discounted variable water charge for limited quality.

The target variable water charges for full service and limited quality are set out in the following table. As discussed in section 6.4, these target variable water charges are subject to annual increases of 2.5 per cent, which is a continuation of the approach applied through the 2012-15 regulatory period. Customers currently paying below target variable rates will see equal yearly increases across the three years of the 2015-18 period so that they arrive at the target rate by 2017-18.

Table 35: 2015-18 Target variable water charges per kilolitre of water (\$)

	2015-16	2016-17	2017-18
Full service (water of drinking water quality)	0.9711	0.9954	1.0202
Limited water quality	0.7769	0.7963	0.8162

6.5.3. Fire service charges

Many customers across the state, particularly commercial and industrial customers, have a water service provided to their property to support a sprinkler system or hose reel in the event of fire. This may be combined with the standard potable service, or in addition to it.

Through the 2012-15 period, 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.

These fire service charges were equivalent to 25 per cent of the relevant target fixed water charge to take account of the fact that the service is called into use infrequently.

The Economic Regulator has approved TasWater continuing to levy fire service charges for the 2015-18 regulatory period in the same manner. The resulting target fire service charges per connection are set out in Table 36.

Table 36: 2015-18 Fire service charges per connection (\$)

Water Connection Size	2015-16	2016-17	2017-18
20mm	82.36	82.36	82.36

Note: These charges apply to customers with a standard 20mm connection. Customers with larger connections need to apply the connection size multipliers contained in Table 32 to calculate their individual target charges for each year of the regulatory period.

6.5.4. Weighting of fixed and variable charges

Through the 2012-15 regulatory period, there was a higher weighting of fixed costs to variable across all three regions in Tasmania. The Economic Regulator has approved TasWater to maintain the mix of charges for the 2015-18 regulatory period.

The current split/weighting of charges is largely driven by the fact that water can be sourced readily in most cases (a major driver of the variable charge) while significant investment is required in infrastructure improvements (covered by fixed charges). In this regard, the mix of charges is a determining factor of TasWater's ability to deliver the significant capital program required to implement service and infrastructure improvements.

As an infrastructure business with predominantly long-life assets, TasWater's cost base is largely fixed. Further, Tasmania is not exposed to the same circumstances as other jurisdictions with water scarcity issues for example, which have been significant drivers of the weighting of fixed and variable charges.

The issue of the mix of charges was raised by a number of customers and stakeholders during targeted consultation undertaken in 2014.

TasWater acknowledges feedback received regarding the weighting of fixed and variable charges and notes the view of many customers and stakeholders that charges should be more heavily weighted towards variable charges.

Any change to the mix of fixed and variable charges at this time would adversely impact on TasWater's ability to deliver the capital program required to address its ageing and non-compliant infrastructure. In addition, there are still many different pricing arrangements for customers across the state that are in transition (both up and down). Therefore TasWater considers that it is not the appropriate time to be attempting to change the mix of charges.

TasWater is of the view that this matter warrants further detailed investigation and intends to pursue this during the next three years with a view to informing a sensible and appropriate approach for the following regulatory period. At that time, the majority of customers are expected to be at uniform target tariffs.

TasWater wants to ensure the arrangements are informed to ensure there are no perverse outcomes, particularly for vulnerable and low-income customers.

6.6. Sewerage tariffs

Sewerage charges help pay to maintain and operate the sewerage pipes, pump stations and treatment plants which take away and treat sewage from a customer's property. The charge also contributes towards improving the infrastructure, which is ageing and significantly non-compliant, so TasWater can provide a more efficient, reliable and environmentally sound service.

Since the reform of the water and sewerage industry, Tasmanian customers have seen a single annual fixed charge for the sewerage service they receive, with no usage pricing component to reflect the volume of sewage discharged into the sewerage system. Notwithstanding this, the fixed charge does cover costs associated with treatment and disposal of domestic sewage. This is also because it is not practical or effective to meter sewerage connections.

An Equivalent Tenement (ET) methodology was used as the basis for calculating fixed sewerage prices during the 2012-15 period. The Economic Regulator has approved the continuation of this methodology for the 2015-18 period. The introduction of a usage charge for sewage was not contemplated for this regulatory period.

6.6.1. ET Methodology

TasWater's ET methodology is based on the WSAA Sewerage Code and the NSW Water Directorate Section 64 Determinations of Equivalent Tenements¹⁸.

An Equivalent Tenement (ET) is a measure of the load a property places on the sewerage system. One ET is considered to be the sewage discharge from an average single residential house, under dry weather flows. This has been determined to be 200kL/ET/annum. ET rates for different land uses are calculated as being a factor of this average sewage discharge rate.

There is and will be variability in peak demands for residential use due to household occupancy rates and internal water use efficiency (which is dependent on the presence of water meters and two part tariffs, the penetration of demand management principles and the extent of water efficient appliances and fixtures), however the application of a standard rate for residential properties is cost effective and common practice.

¹⁸ Originally published in 2005; and published with an addendum in 2009.

In relation to non-residential properties, different ET rates are applied to various property attributes, including building area, land size, number of occupants, general public entertainment facilities, hospital beds and amenities. These ET rates and attributes are then used to undertake an assessment of the number of ETs for that property.

Where a property has multiple activities on the land parcel the ET rates and assessment are based on each specific type of activity.

High-level ET categories applied by TasWater include:

- Standard occupancy
 - includes residential dwellings, together with units, flats, apartments and granny flats, regardless of the number of bedrooms and the density of the dwelling (ie number of storeys)
- Accommodation (permanent)
 - includes accommodation dwellings or rooms that are occupied permanently or semi-permanently, but are generally developed on land zoned for commercial purposes; such as Caravan/Mobile Home Park (with permanent occupation), Boarding House, Nursing Home and Self Care Retirement Unit
- Accommodation (short term)
 - includes accommodation dwellings or rooms that are occupied temporarily, and are generally developed on land zoned for commercial purposes; such as Caravan Park, Motel, Backpackers, B&B and Serviced Tourist Apartment
- Accommodation (medical care)
 - includes medical care accommodation, occupied temporarily, such as Hospital and Hostel (medical)
- Business (excluding food preparation)
 - includes commercial/business developments such as a Single Shop, Supermarket, Shopping Centre and Office
- Food preparation
 - includes commercial/business development associated with food preparation, such as Restaurant/Cafe, Takeaway/Fast Food and Catering
- Entertainment
 - includes commercial/business development associated with entertainment, such as Pub/Bar, Licensed Club, Theatre, Function Centre and Marina
- Sporting/spectator facilities
 - includes commercial/business development associated with sporting and spectator facilities, such as Amenities & Indoor facilities, Swimming Pool and Bowling Alley
- Community facilities
 - includes commercial/business development associated with community facilities such as Child Care, Education, Correctional Centre, Church, Community Centre and Public Amenities Block

- Industrial
 - includes industrial activity associated with Food Manufacture, Metal Processing & Manufacturing and Services (including laboratories and industrial laundries)

This list of categories is not exhaustive and consequently TasWater has included the ability to assess on an ad hoc, case by case basis if the circumstances warrant.

It should be noted that discharge of non-domestic liquid trade waste is recouped separately through the application and payment of trade waste charges.

The NSW Water Directorate guidelines indicate it is preferable to apply localised ET figures as there are variances in differing jurisdictions. TasWater has adopted statewide ET rates, consistent with the application of postage stamp pricing across the state, and made adjustments to some rates to best reflect Tasmanian circumstances¹⁹. TasWater undertakes to publish, on its website by 1 July 2015, justification for each instance where it has adopted ETs that differ from those published in the Water Directorate's guidelines.

ET assessment process

With respect to assessing a customer's property calculated ETs, the following steps are undertaken:

1. A combination of data sources such as site visits, local knowledge, google maps, direct customer contact and council data, are used to ascertain the property type and associated property attributes. ETs for identified non-residential customers, eg commercial, industrial, primary industry, and community services, to be determined based on their respective category and, within that category, the other relevant parameters including number of beds or rooms, number of staff and students, and gross floor area and/or applicable amenities.
2. Attribute a default one (1) ET to all identified standard residential customers.
3. Identify customers who have a property within Serviced Land that is not physically connected to TasWater's infrastructure but which has the ability to connect. While the property will have a minimum of one ET, these customers will be charged at 60 per cent of the standard ET rate for a residential dwelling.

A schedule of the ET rates for different industries/property use types is provided at Attachment 8.12.

ET rates and sewerage charges

ET assessments are used to calculate a customer's fixed sewerage target charge. The fixed sewerage charge covers costs associated with treatment and disposal of domestic sewage.

A customer's fixed sewerage target charges increase proportionally with the ET assessment, with non-residential properties charged based on the load they could potentially place on the sewerage system relative to a single residential dwelling.

For sewerage charging purposes, no customer can be less than 1 ET, however if a property is within Serviced Land but not connected that customer will receive an unconnected sewerage service charge, which equates to 60 per cent of the full fixed sewerage target charge.

The practical application of the ET methodology means that if a property is deemed to be capable of discharging twice as much sewage into the sewerage system, it will be assessed as 2 ETs and the target price will be twice the standard fixed sewerage charge. Similarly, if the customer could discharge 50 times as

¹⁹ For example, some rates have been adjusted down to reflect that customers (where relevant) see separate trade waste charges. A summary of departures from the Code and Water Directorate is provided at Attachment 8.12.

much as a residential dwelling it will be assessed as 50 ETs and the target price will be 50 times the standard fixed sewerage charge.

For the purpose of calculating sewerage charges, the Economic Regulator has approved that a customer's ET assessment will result in a minimum of one ET being applied, although ET rates for different property types may be less than one.

ET reassessment

TasWater has arrangements in place for customers to have their ET calculation reassessed if they believe it is inaccurate.

An ET reassessment may result in an increase or decrease in the ET rates and therefore the applicable target price. The new rates and target price will be applied to the customer's account from the next billing period, with the charges transitioning (consistent with the approved price constraints) at the start of the next financial year.

Details of the process for reassessment are available on TasWater's website.

6.6.2. Fixed sewerage target charges per ET (\$)

TasWater's fixed sewerage target charges per connection for full service customers connected to TasWater's sewerage infrastructure are set out in Table 37. As discussed in section 6.4, fixed sewerage target charges are subject to annual increases of 6 per cent, which is a continuation of the approach that applied through the 2012-15 regulatory period.

Table 37: 2015-18 Fixed sewerage target charges (\$)

No of ETs	2015-16	2016-17	2017-18
Fixed charge per Equivalent Tenement	562.68	596.44	632.24

6.6.3. Methodology for determining ETs for Caravan Parks

Since the introduction of the ET methodology for calculating sewerage charges in Tasmania, concerns have been raised that the approach does not provide an accurate estimate of the likely demand each caravan park would impose on the sewerage network.

Following public consultation on its draft report and discussions with both the industry peak body, Caravanning Tasmania and TasWater, the Economic Regulator developed the following alternative approach to determining ETs for caravan parks for the 2015-18 period:

Caravan park ETs =

$$\frac{\text{Previous year Q3 to current year Q3 annual water consumption} \times \text{Discharge Factor}}{\text{Average annual residential water consumption}}$$

Where:

- Discharge Factor is 0.75²⁰
- Average annual residential water consumption for the preceding financial year based on TasWater's annual performance report²¹.

²⁰ Based on the findings from the Independent Pricing and Regulatory Tribunal's, Water – Discussion Paper, *Discharge factors for non-residential customers – Towards a standardised approach*, September 2013.

²¹ TasWater's reported average annual residential water consumption for 2013-14 was 185.6 kilolitres.

Once this calculation has been done the standard ET assessment process then applies to the calculated figure in the same way as it does for other customers in terms of value and price transition arrangements.

It is considered that this approach will be simpler to administer and result in more cost reflective outcomes. For example, once on target charges, caravan parks with average water consumption will receive sewerage bills roughly equivalent to their water bills. However, parks with above average water consumption will have sewerage bills higher than their water bill. This reflects the higher demand those parks put on the system and the fact that sewerage treatment typically has higher variable costs than water treatment.

6.7. Customer transition impacts

The price transition arrangements approved by the Economic Regulator will see the majority of customers reaching target pricing by the last year of the period, being 2017-18.

The Economic Regulator's determined price constraints discussed in section 6.4, enable this to be achieved without customers facing price shocks.

The following four tables reflect the outcomes of the price transition arrangements. They show there are no water or sewerage customers above target from 1 July 2015.

Table 38 and Table 39 show the distribution of customers around the target water charges by percentage and by the number of customers respectively.

Table 38: Distribution of connections around the fixed water target charges (percentage of customer connections)

Connection Size	Year	Proportion paying greater than the target tariff by:					Proportion paying less than the target tariff by:				
		0-25%	26-50%	51-75%	76-100%	100%+	0-25%	26-50%	51-75%	76-100%	100%+
20mm	2015-16	-	-	-	-	-	9.7	0.6	-	-	-
	2016-17	-	-	-	-	-	4.2	1.0	-	-	-
	2017-18	-	-	-	-	-	1.0	-	-	-	-
	2018-19	-	-	-	-	-	0.3	-	-	-	-
	2019-20	-	-	-	-	-	0.2	-	-	-	-
All other connection sizes	2015-16	-	-	-	-	-	13.1	3.2	0.3	-	-
	2016-17	-	-	-	-	-	5.8	1.0	0.1	-	-
	2017-18	-	-	-	-	-	2.7	0.2	-	-	-
	2018-19	-	-	-	-	-	0.9	-	-	-	-
	2019-20	-	-	-	-	-	0.3	-	-	-	-

Table 39: Distribution of connections around the fixed water target charges (number of customer connections)

Connection Size	Year	Number paying greater than the target tariff by:					Number paying less than the target tariff by:				
		0-25%	26-50%	51-75%	76-100%	100%+	0-25%	26-50%	51-75%	76-100%	100%+
20mm	2015-16	-	-	-	-	-	14,888	941	14	39	-
	2016-17	-	-	-	-	-	6,412	297	9	30	-
	2017-18	-	-	-	-	-	1,574	11	40	-	-
	2018-19	-	-	-	-	-	537	11	31	-	-
	2019-20	-	-	-	-	-	271	31	-	-	-
All other connection sizes	2015-16	-	-	-	-	-	2,755	673	70	-	-
	2016-17	-	-	-	-	-	1,226	216	12	-	-
	2017-18	-	-	-	-	-	578	48	1	-	-
	2018-19	-	-	-	-	-	186	5	-	-	-
	2019-20	-	-	-	-	-	56	-	-	-	-

Table 40 and Table 41 show the distribution of customers around the target sewerage charges by percentage and by the number of customers respectively.

Table 40: Distribution of ETs around the fixed sewerage target charges (percentage of total customer ETs)

Category	Year	Proportion paying greater than the target tariff by:					Proportion paying less than the target tariff by:				
		0-25%	26-50%	51-75%	76-100%	100%+	0-25%	26-50%	51-75%	76-100%	100%+
One ET	2015-16	-	-	-	-	-	15.8	2.4	0.3	-	-
	2016-17	-	-	-	-	-	11.4	0.4	0.2	-	-
	2017-18	-	-	-	-	-	8.7	0.3	-	-	-
	2018-19	-	-	-	-	-	6.1	-	-	-	-
	2019-20	-	-	-	-	-	5.3	-	-	-	-
All other customers	2015-16	-	-	-	-	-	24.7	16.2	7.4	0.6	-
	2016-17	-	-	-	-	-	23.6	12.7	2.6	-	-
	2017-18	-	-	-	-	-	19.8	7.6	0.4	-	-
	2018-19	-	-	-	-	-	12.7	1.4	0.1	-	-
	2019-20	-	-	-	-	-	4.7	0.3	-	-	-

Table 41: Distribution of ETs around the fixed sewerage target charges (number of customer ETs)

Category	Year	Number paying greater than the target tariff by:					Number paying less than the target tariff by:				
		0-25%	26-50%	51-75%	76-100%	100%+	0-25%	26-50%	51-75%	76-100%	100%+
One ET	2015-16	-	-	-	-	-	21,980	3,377	367	29	-
	2016-17	-	-	-	-	-	15,908	555	215	28	-
	2017-18	-	-	-	-	-	12,221	426	29	-	-
	2018-19	-	-	-	-	-	8,615	63	28	-	-
	2019-20	-	-	-	-	-	7,512	28	-	-	-
All other customers	2015-16	-	-	-	-	-	13,367	8,734	4,011	329	-
	2016-17	-	-	-	-	-	12,805	6,900	1,405	-	-
	2017-18	-	-	-	-	-	10,726	4,119	225	-	-
	2018-19	-	-	-	-	-	6,932	769	35	-	-
	2019-20	-	-	-	-	-	2,540	179	-	-	-

The tables above show that over 3,000 water and almost 28,000 sewer customers will not reach target by 2018. Further, the tables also show that, under assumptions developed for the draft Price and Service Plan, some water and sewer customers will not reach target by 2020. TasWater will propose the pathway by which these customers can be moved to target by 2020 as part of its PSP3 proposal.

The following table shows the comparison of 2014-15 water and sewerage target charges to the approved statewide water and sewerage target charges for 2015-16.

It is worth noting, that while there might be movement upwards or downwards from the previous regional prices, individual customer charges will go up and down depending on how far they had previously transitioned and how far they still need to go to be reach the respective fixed target charges.

Table 42: Comparison of 2014-15 regional target charges and approved statewide target charges for 2015-16

	Target Prices		Change in regional to statewide target price
	2014-15*	2015-16†	
Fixed water charge per connection (20mm DN)			
Northern region	\$322.00		↑ by \$7.48
North Western region	\$432.02	\$329.48	↓ by \$102.54
Southern region	\$305.97		↑ by \$23.51
Variable water charge \$/kL (water of drinking water quality)			
Northern region	\$0.9474		↑ by \$0.0237
North Western region	\$0.9474^	\$0.9711	↑ by \$0.0237
Southern region	\$0.9474		↑ by \$0.0237
Fixed sewerage charge per connection (one ET)			
Northern region	\$536.00		↑ by \$26.68
North Western region	\$669.63	\$562.68	↓ by \$106.95
Southern region	\$549.11		↑ by \$13.57

Notes:

* approved by the Economic Regulator in the existing price determinations for each region

approved statewide target prices for the first year of period

^ stated variable rate for new customers only, the rate for existing customers in the North-West region depended on which municipality a customer is within as there was no one volumetric rate for 2012-15 period.

A range of scenarios have been developed to demonstrate how various customers charges might transition under the price transition arrangements set out in this Price and Service Plan. These include the price transition for a customer who at the start of the regulatory period is:

- above target
- below target
- at target.

The scenarios compare the expected total water and sewerage bill (fixed and variable charges) of a customer at target pricing compared against the total bill of a customer who is either above or below target. All calculations assume a typical customer, with a 20mm water connection, one ET and water usage of 200kL per annum.

Under these assumptions, and using the target charges approved by the Economic Regulator, the typical annual water and sewerage bill between 2015 and 2018 will be in the order of \$1,086 in 2015-16, \$1,125 in 2016-17 and \$1,166 in 2017-18. In the last year these annual charges equate to a daily spend on water and sewerage of approximately \$3.20.

A comparison of the scenarios is provided in Figure 12.

Figure 12: Comparison of indicative price transition scenarios

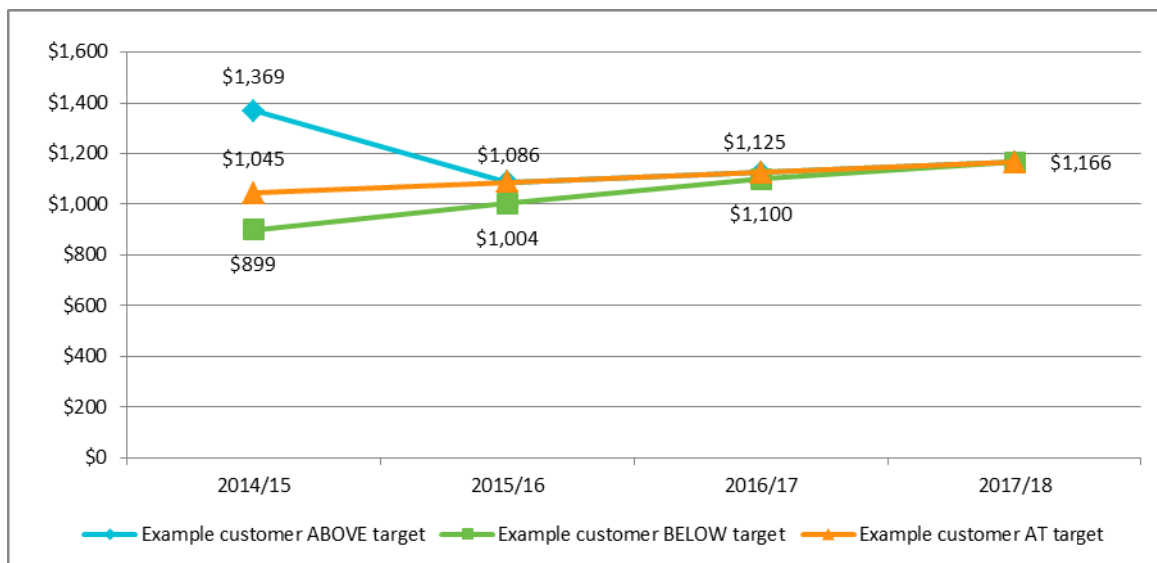


Figure 12 shows the price transition for a customer who has an annual bill of just over \$1,369 in 2014-15 (which is above the target charges), compared against the transition for a customer who has an annual bill of just under \$900 in 2014-15 (which is below the target charges) and a customer who has reached target charges at the start of the period.

It shows that prices for the customer above target will drop straight to target pricing on 1 July 2015, which in this example is equivalent to a reduction in the annual bill of over \$283. In the years thereafter, this customer’s charges will increase in line with target charges.

Prices for the customer below target at the start of the period will increase in line with the price constraints set out in section 6.4 until they reach target. In the example this means the customer’s annual bill increases

by \$105 in the first year of the period (being \$100 for the fixed charges and \$5 for the variable charges), \$96 in the second and \$66 in the final year, which gets them to target.

Prices for the customer who has reached southern target prices at the start of the period will increase each year in line with the approved target charges, meaning their annual bill will increase by \$42 in the first year, \$39 in the second and \$41 in the third.

6.7.1. Specific pricing scenarios and rules covering the application of and/or transition to target tariffs

In addition to the 'typical' way in which a customer will transition to target prices in accordance with the price constraints described in section 6.4, there are a range of specific scenarios which trigger an immediate application of the relevant target tariffs.

These scenarios are dependent upon whether:

- the property ownership has changed;
- the property's predominant use has changed;
- the service provided has changed;
- a customer is currently paying for a service; and
- the property is subject to a development application.

The following table summarises the scenarios, and outlines whether customers will have the relevant target tariff applied immediately or transition to the relevant target tariff.

Table 43: High-level summary of the circumstances when a customer will go direct to target charges or transition to target under the price constraints

Scenario	Basis of change	Target Charge/s Applied	Transition to Target Charge/s under price constraints
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 subdivisions)	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		✓

Scenario	Basis of change	Target Charge/s Applied	Transition to Target Charge/s under price constraints
Adhesions (unless part of a development application)	Property change		✓
Amalgamation	Property change		✓
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	✓	

Note: the direct application of target charges refers to any or all of the fixed water charges, fixed sewerage charges and variable water charges (depending on the service/s provided to a property).

TasWater undertakes to publish on its website by 1 July 2015 details of the process it intends following in deciding whether to either move customers directly to target or move customers to target under price constraints in accordance with the scenarios outlined in the above table.

It is important to note that while the 2012-15 price determination provided the former regional corporations with specific arrangements to protect them against revenue loss from customers well above target²², TasWater did not seek such an arrangement for the 2015-18 period.

6.8. Pricing for different customer classes

As discussed in Chapter 5 and section 6.3.4, the Economic Regulator has approved TasWater's proposal to adopt several customer classes to reflect the level of service a customer is receiving. Pricing arrangements, as set out in section 6.5, differ for each of these customer classes and can be summarised as follows:

- Full service customers
 - fixed water charge per connection
 - full service (potable supply) variable water charge per kilolitre of water used
 - fixed sewerage charge per ET
- Limited water quality²³ customers
 - fixed water charge per connection
 - limited quality variable water charge per kilolitre of water used (equivalent to 80 per cent of the full service variable water charge)
- Limited water supply customers
 - discounted fixed water charge per connection (equivalent to 90 per cent of the fixed water charge for full service customers)

²² As per section 5.4.13.2 of the Economic Regulator's 2012 Final Report, the regional corporations were allowed by the Regulator to impose customer charges in accordance with:

- subject to (2), the transition arrangements, notwithstanding any changes to a customer's connection arrangement, amalgamation of titles, conversion of strata titles to a single title, or other arrangement; and
- prevailing target tariffs where there was a change of use resulting in a genuine and permanent reduction in water demand resulting in a change in the number and/or size of water connections; and/or a genuine and permanent reduction in the number and/or size and/or load of sewerage connections.

²³ Limited water quality applies only for those customers on a Do Not Consume notice and/or permanent boil alert or on a long term temporary boil alert notice.

- full service (potable supply) variable water charge per kilolitre of water used
- Limited water quality and limited water supply customers
 - discounted fixed water charge per connection (equivalent to 90 per cent of the fixed water charge for full service customers)
 - limited quality variable water charge per kilolitre of water used (equivalent to 80 per cent of the full service variable water charge)
- Fire service supply customers
 - Fixed fire charge per connection (equivalent to 25 per cent of the fixed water charge)
- Trade waste supply customer
 - Annual trade waste charge (per category 1, 2A, 2B, 2C)
- Customers with unconnected properties
 - Water service charge (equivalent to the fixed water charge); and/or
 - Sewerage service charge (equivalent to 60 per cent of the fixed sewerage charge per ET).

6.9. Charges for other regulated services

TasWater provides a range of other services for which pricing is also regulated. These include private and public water filling stations, motor home dump points, and septic tank effluent disposal schemes. In addition, TasWater also undertakes a number of one-off activities at a customer's request relating to developments, subdivisions, building and plumbing applications, special meter reads, service location, production of property information plans, removal of a device to restrict the supply of water, and pressure and flow testing. These activities are also regulated, with details of charges approved by the Economic Regulator set out in this section.

The approved approach (including approved charging methodology) to matters such as the levying of charges on vacant/unconnected properties, trade waste, development, service introduction and service replacement is detailed throughout Chapter 7.

6.9.1. Other regulated water charges

TasWater has several sites throughout the state which provide public potable water filling facilities (these are available not just to water cartage operators). There are effectively five ways in which bulk water can be provided to these 'mobile' customers. These are through:

- Private filling stations (dedicated meter banks are provided at various points on the water network)
- Public filling stations – e-card system (customers can utilise the Avdata system of e-cards for public filling points at various points on the water network)
- Public filling stations – registered key access system (customers can utilise the registered key access for public filling points at various points on the water network)
- Public filling stations – token based (some newsagents and councils are agents for token based filling points at various points on the water network)
- Portable metered standpipes.

TasWater owns and operates 37 filling stations points throughout the state some that use an e-card access system where customers either prepay for usage, or utilise a credit system with monthly invoicing, others access via purchasing tokens from TasWater or its agents.

Consistent with the approach to levying water and sewerage charges, the Regulator has approved that statewide charges will apply for each of these water filling options from 1 July 2015.

The type and level of charges for each of these water filling options is set out in Table 44.

Table 44: 2015-18 water filling charges

Access type	Charge	2015-16	2016-17	2017-18
Private filling stations	Fixed charge per annum	As per meter size (see section 6.5.1)	As per meter size (see section 6.5.1)	As per meter size (see section 6.5.1)
	Per kL ¹	\$0.9711	\$0.9954	\$1.0202
Public filling stations (e-card and registered key)				
- Volumetric charge	Per kL	\$1.4627	\$1.5165	\$1.5727
- Security deposit	One-off Fee	\$50.00	\$50.00	\$50.00
Public filling stations (token based)	Per token ²	\$0.7313	\$0.7582	\$0.7863
Portable stand pipes	Fixed charge per annum	As per meter size (see section 6.5.1)	As per meter size (see section 6.5.1)	As per meter size (see section 6.5.1)
	Per kL ¹	\$0.9711	\$0.9954	\$1.0202
e-card credit top up	Processing Fee ³	\$5.50	\$5.63	\$5.77

Notes:

1. Consistent with the proposed water variable charges for each year of the period as set out in section 6.5.2
2. Tokens are for 500 litres of water
3. Escalated by CPI each year

In relation to charges for public filling stations, the Economic Regulator has approved TasWater continuing the approach used for the 2012-15 period, where a wholly volumetric charge for filling from the system is set based on the target variable water charge and a component that represents a deemed contribution to fixed costs. Each year these charges will increase by the prevailing CPI factor.

With respect to private filling stations, these customers, which are permanently connected and have been charged in accordance with the 2012 price determination, will transition to their respective target charges under the same rules that apply to other water customers.

6.9.2. Development assessment service fees

Development assessment services relate to all development, subdivision, building and plumbing applications processed by TasWater. Services include assistance with planning, building, plumbing, water and sewerage related works, trade waste and information requests.

Pricing is structured relative to the scope of the proposal, taking into consideration the following:

- Time required by TasWater staff to assess and provide advice to the proposal
- Land size
- Total allotments
- Water supply/sewerage requirements

Development applications either forwarded by councils or submitted to TasWater for assessment will attract fees, as set out in schedule of charges, that will be escalated annually by a factor of 2.5 per cent.

In relation to the rezoning of land, section 34 of the *Land Use Planning and Approval Act (LUPAA)* applies (through amendment to a Planning Scheme) while Section 43 enables assessment of both the rezoning aspect, along with an application for development of the land after the rezoning.

The fee classifications are:

Classification	Thresholds	
	Rezoning (Ha)	Subdivision of Land (Lots ¹)
Minor	<0.4	2
Medium	0.4 – 1.0	3-10
Major	>1.0 – 3.0	11-25
Significant	>3.0	>25 ²

Notes:

1. total lots in the subdivision / boundary adjustment

2. development with major infrastructure (eg sewage pump station, water pump station, reservoir, pressure reducing station) defaults to significant.

Non-subdivision/building applications/plumbing applications	
Classification	Thresholds
Minor ¹	0 - 2 ET typically including: <ul style="list-style-type: none"> • Single dwelling/extension/alteration • One or two units/town houses • Auxiliary dwelling/dependence unit • Shed/garage/carport • Demolition • Shop refit • Light industrial/commercial/retail site / <0.15Ha • Minor extension to commercial / light industrial/retail • New connections • Change of use
Medium ²	>2 - 10 ET typically including: <ul style="list-style-type: none"> • Three (3) to 10 dwellings/units/town houses/dependence units • Light industrial/commercial/retail site/0.15-0.3Ha • New/modified backflow protection devices • New/modified fire protection/metering services • Restricted or wayside water connection
Major ³	>10 - 30 ET typically including: <ul style="list-style-type: none"> • 11-30 dwellings/units/townhouses/dependence units • Industrial/commercial/retail site/>0.3Ha - 1.5Ha
Significant ⁴	>30 ET typically including: <ul style="list-style-type: none"> • >30 dwellings/units/town houses/dependence units • Heavy industrial/commercial/retail site/>1.5Ha • Effluent reuse/development within buffer areas

Fees and charges associated with development assessment services were derived by standardising the 2012-15 regional charges. The Economic Regulator has approved that the charges be escalated by 2.5 per cent in each year of the 2015-18 period. These fees and charges are detailed in Attachment 8.11.

As mentioned above, there are a number of one-off activities that TasWater undertakes at a customer's request, including special meter reads, service location, production of property information plans, removal of a device to restrict the supply of water, and pressure and flow testing.

The Economic Regulator has approved TasWater continuing to charge customers for carrying out these activities, which were standardised across the state in 2014-15. The charges, all of which will be escalated by 2.5 per cent each year, are set out in Table 45.

Table 45: Miscellaneous one-off fees (\$)

	2015-16	2016-17	2017-18
Special meter read ¹	\$52.35	\$53.65	\$55.00
Service location fee ²	\$92.91	\$95.24	\$97.62
Property information plan ³	\$42.20	\$43.25	\$44.33
Restriction charge ⁴	\$92.99	\$95.31	\$97.70
Pressure and flow testing fee ⁵	\$92.91	\$95.24	\$97.62

Notes:

1. One-off read of a meter outside the normal reading cycle, ie when there is a change of ownership or a landlord requests a special meter reading when a tenant is vacating a property.
2. Provision of advice to external parties (such as utility companies and contractors) about the location of water and sewerage infrastructure.
3. Production of a property information plan from the GIS system that details TasWater's services surrounding a property, outside the standard "Dial before you dig" process.
4. The removal of a device used to restrict the supply of water.
5. Testing of water pressure and flow (typically for the purposes of developments) upon request.

6.9.3. Other regulated sewerage charges

Motor home dump points (sanitary dump station)

A Motor Home Dump Point (MDP) or sanitary sump station is a facility intended to receive the discharge of wastewater from any holding tank or similar device installed in a recreational vehicle. There are several such facilities in TasWater's serviced area. TasWater will charge one ET sewerage charge for properties providing these facilities. Should these sites also have a water connection they will receive a fixed 20mm connection charge and their usage metered.

For MDPs that are located within caravan parks, however, a separate charge will not be levied as the methodology for determining ETs for caravan parks (refer section 6.6.3) will already take account of that facility. The imposition of a separate charge for such a facility would essentially be 'double-dipping' on TasWater's part. This approach has been approved by the Economic Regulator in its 2015 Price Determination.

Table 46: Motor home dump point charges

	2015-16	2016-17	2017-18
One ET	\$562.68	\$596.44	\$632.24

Existing customers will transition to their respective target charges under the side constraints set out in section 6.4.

Septic tank effluent disposal (STED) schemes

TasWater operates several limited sewerage services around the state which take only the liquid waste from customers. In this instance, customer are required to manage their own septic tank for solids and it is recommended these septic tanks be pumped out once every five years (see AS1547:2000).

A property connected to a STED scheme will have an ET rate of one, consistent with the ET methodology described in section 6.6.1 which is based on the principle that all properties will have a minimum of one ET.

The Economic Regulator has approved TasWater continuing to discount the full fixed sewerage charge by 10 per cent for these properties. The 10 per cent discount reflects the approximate annual cost of a septic tank pump out once every five years.

Table 47: STED scheme charges

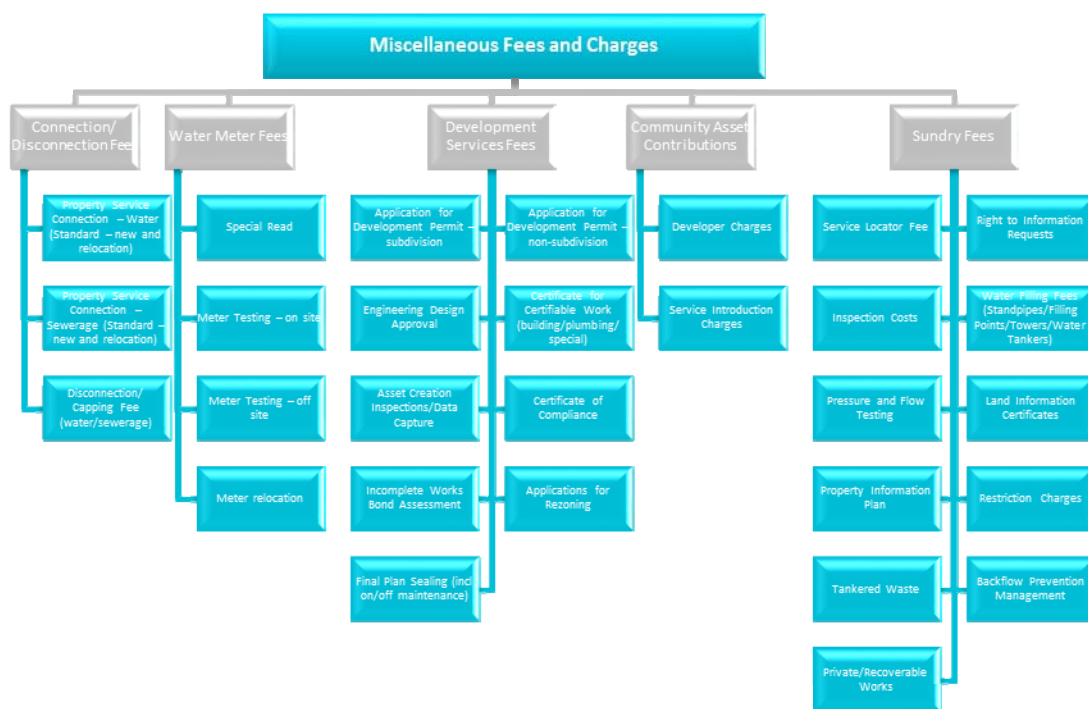
	2015-16	2016-17	2017-18
0.9 of one ET	\$506.41	\$536.80	\$569.02

Existing customers will transition to their respective target charges under the side constraints set out in section 6.4.

6.10. Miscellaneous fees and charges

TasWater provides a range of one off services which are collectively known as miscellaneous fees and charges. These various fees and charges are set out below.

Figure 13: Breakdown of miscellaneous fees and charges



TasWater’s rates for each fee and charge for each year of the 2015-18 period are set out in Table 48.

Table 48: Miscellaneous fees and charges

Type of charge	Details	2015-16	2016-17	2017-18
Property Service Connection – Water (standard 20mm Ø connection)	Fee for new water service connections or a relocation of a water connection (20mm)	\$2,032.69	\$2,083.50	\$2,135.59
Property Service Connection – Water (standard 25mm Ø connection)	Fee for new water service connections or a relocation of a water connection (25mm)	\$2,218.57	\$2,274.03	\$2,330.88
Property Service Connection – Water (non-standard connection)	Fee for new water service connection, which is not a standard connection	POA	POA	POA
Property Service Connection – Sewer (standard 100mm Ø connection)	Fee for a new sewerage service connection to residential or relocation of a sewerage connection	\$1,481.69	\$1,518.73	\$1,556.70

Type of charge	Details	2015-16	2016-17	2017-18
Property Service Connection – Sewer (non-standard connection)	Fee for new sewerage connection or relocation of a sewerage connection	POA	POA	POA
Disconnection/ Capping Fee residential (water/sewerage)	Fee for disconnection of the service to the main and capping the residential service connection.	\$423.40	\$433.98	\$444.83
20mm meter installation	Fee for supply and installation of standard 20mm meter	\$253.86	\$260.21	\$266.72
> 20mm meter installation	Fee for supply and installation of > 20mm meter	POA	POA	POA
Fire Service installation	Fee for new fire service connection - stand alone or combined with new water service	POA	POA	POA
Special Meter Reads	Fee for the one-off read of the meter outside the normal reading cycle, eg when there is change of ownership	\$52.35	\$53.65	\$55.00
Meter Assessment (testing on-site)	Fee for undertaking an initial flow test of a water meter with a measured quantity of water	\$70.38	\$72.14	\$73.95
Meter Testing (off-site)	Fee for undertaking an accredited test of a water meter, payable only if the meter is found to be working correctly.	POA	POA	POA
Meter Relocation (< 3 meters)	Fee for the relocation of an existing water meter at the property.	\$423.40	\$433.98	\$444.83
Meter Relocation (> 3 meters)	Fee for the relocation of an existing water meter at the property.	POA	POA	POA
Meter downsizing (50mm to 20mm)	This represents the cost of replacing an existing water meter with a smaller water meter	\$342.47	\$351.03	\$359.81
Meter downsizing (others)	This represents the cost of replacing an existing water meter with a smaller water meter, other than 50mm to 20mm	POA	POA	POA
Section 56W Consent fee	Fee charged for TasWater granting its consent for a structure to be built over water and sewerage infrastructure	\$42.73	\$43.80	\$44.90
Service Locator Fee - Business Hours	Fee charged for staff to locate and advise external parties (individuals, utility companies and contractors) where water and sewerage infrastructure is located.	\$92.91	\$95.24	\$97.62
Right to Information requests (RTI)	This fee represents access to information held by State Government departments, ministers, councils or authorities within the guidelines of the Right to Information Act 2009.	25 fee units	25 fee units	25 fee units
Inspection Costs	This fee represents where another utility or development may be working around our pipes and we need to be on site to ensure that what they are doing will not affect our services.	\$53.56/hr	\$53.56/hr	\$53.56/hr
Pressure and Flow Testing	This fee occurs where a developer may need to know the pressure/flow that could be provided to a proposed development before proceeding.	\$92.91	\$95.24	\$97.62
Restriction Charge	This fee represents the cost of the removal of a device used to restrict the supply of water.	\$92.99	\$95.31	\$97.70
Backflow Prevention Management	Administration costs charged for boundary backflow devices	POA	POA	POA
Administration Fee	This fee may be applied for failure to pay a debt due. The fee will not be charged if: a) The account balance is less than \$50; and b) the customer is eligible for a concession; c) the customer pays the overdue amount within five days; d) the customer contacts TasWater prior to the fifth day after the due date and is offered a flexible payment plan.	\$5.00	\$5.13	\$5.25

6.11. Unregulated services

Under the Industry Act a “regulated service” means the provision of a water service or a sewerage service by a regulated entity. This includes any ancillary activities covered through miscellaneous fees and charges.

Consistent with the provisions of section 31 of the Industry Act the then Minister for Water issued the *Water and Sewerage Industry Declaration Order 2011* specifying a small number of activities not to be a regulated activity. Clause 3 of the Declaration Order states:

- The activity of providing a service for the collection or use of stormwater is declared to not be a regulated activity
- The activity of providing a service for the recycling of water is declared to not be a regulated activity
- The activity of providing a service for the re-use of water is declared to not be a regulated activity
- Subclauses (1), (2) and (3) apply in relation to a service whether or not the service is provided through infrastructure that is used for the collection of sewage.

TasWater also provides some other unregulated services that have not been declared by the Minister to “not be regulated activities”. These services, including tankered waste (where waste is accepted from third parties) and biosolids (where organic matter is recycled from sewage and spread on land, particularly for agricultural purposes) are not regulated as TasWater is not a monopoly provider.

As discussed in section 1.5.3, TasWater’s approach to unregulated services is underpinned by the principle of full cost recovery from the beneficiaries of the service, thereby ensuring there is no cross-subsidisation from regulated customers.

6.11.1. Reuse Schemes

Reuse and/or recycled water schemes vary between unregulated services and least cost wastewater disposal solutions. An example of an unregulated service is the Clarence Recycled Water Scheme, Tasmania’s largest recycled water network supplying 28 customers approximately 1,900ML of recycled water in the Coal Valley. An example of a least cost disposal scheme is a small regional scheme supplying one customer for free in what is the most cost effective method of managing wastewater discharge.

Consistent with section 1.5.3, TasWater considers 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 wastewater 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.

At this time, TasWater’s unregulated reuse schemes have operational costs which substantially exceed revenue received. It is not envisaged that reuse water services will result in a positive financial return in the short to medium term.

6.11.2. Biosolids

Biosolids are a by-product of the wastewater treatment process. The management of biosolids is not a stand-alone service that TasWater provides, rather it is an extension of the treatment process.

TasWater currently manages biosolids by providing them for agricultural purposes (where agreements can be struck with farmers/landowners), paying licensed processors to compost or, where contaminated, paying for burial at licensed landfill sites.

Compliance obligations and cost optimisation are key areas of focus for TasWater in its management of biosolids in the short to medium term.

6.11.3. Irrigation

Irrigation water is available to some customers across the state under limited circumstances. The irrigation water supply comes from the same treatment and distribution infrastructure that provides water to our water service customers. It is allocated to irrigation customers once water service demand has been satisfied. This surplus capacity generally occurs during the cooler, wetter months. As such, the provision of irrigation supply services actually leads to cost optimisation of pipe capacity in off-peak periods through the recovery of additional unregulated revenue.

6.11.4. Stormwater

Under the *Urban Drainage Act 2013*, the provision of stormwater services is the responsibility of councils. This Act allows for councils to contract third parties to provide stormwater services on their behalf.

In Launceston TasWater owns and operates a combined sewerage and stormwater system. Under the 2011 Declaration Order, the stormwater service component of this system is not a regulated service. Finalisation of the charge payable by Launceston City Council for this service is presently being determined via an arbitration process.

6.11.5. Tankered waste

Trade waste and domestic septic waste is currently tankered from businesses and homes by cartage contractors to a select number of TasWater's wastewater treatment plants. Most plants are not designed to accept this waste, which is often unidentified and uncharacterised when it arrives at the plant. However, this service is unregulated as there are competitive alternatives for waste producers in regard to disposal. These include landfills and some commercial providers who have waste separation facilities.

7. Service Provision

7.1. Serviced Land

7.1.1. Background

Serviced Land is the land which TasWater will permit to be connected to its water and sewerage 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.

The Economic Regulator requires TasWater to publish separate descriptions of Serviced Land for water services and sewerage services and ensure that the description is updated and published on a regular and ongoing basis.

In preparation for the 2015-18 regulatory period, TasWater adopted a desktop-based approach to the identification of its Serviced Land area, guided by a statewide set of business rules that address issues such as minimum flow, static pressure and proximity to infrastructure mains.

TasWater has identified Serviced Land based on individual land titles. Each Title has been assessed for a single tenement connection. In the event that multiple tenements are required additional assessments will need to be undertaken.

For the purpose of determining Serviced Land, TasWater uses the following terminology:

- DN – *Diamètre Nominal* (nominal diameter or pipe size in mm)
- kPa – Kilopascal; 1 kPa = 1,000 Pa
- L/m – Litres per minute
- M – Metre
- Mm – Millimetre; 1,000 mm = 1m
- Pa – Pascal; unit of pressure

7.1.2. Legislative requirements

Section 56U(1)(b) of the *Water and Sewerage Industry Act 2008* (WSIA) requires TasWater's price and service plans to include a description of the land (identifiable by individual title or locality) it will permit to be connected to its water or sewerage infrastructure i.e. a description of "Serviced Land".

The *Tasmanian Water and Sewerage Industry Customer Service Code* (April 2015), complements the WSIA and sets out additional requirements with which TasWater must comply.

7.1.3. Description of Serviced Land – Water

With respect to water services, the desktop-based approach references the *TasWater Supplement to Water Supply Code of Australia WSA 03-2011-3.1 MRWA Edition V2.0*²⁴ for the minimum service pressure at peak hour demand and minimum flow rate and adopted the following rules to assess minimum water standards:

- a static head of 25 metres (250 kPa)
- a minimum flow of 20 L/m at the connection point²⁵.

²⁴ Refer to TasWater's website for a copy of the TasWater Supplement.

Using these standards and other factors, TasWater has identified titles with different levels of water services (i.e. Full Service or Limited Service). Titles identified as receiving a Full Service are either currently connected and receiving the minimum required pressure and flow, or can be connected via a standard connection. Those titles identified as receiving a Limited Service will receive a discounted fixed water charge as described in section 6.5.1.

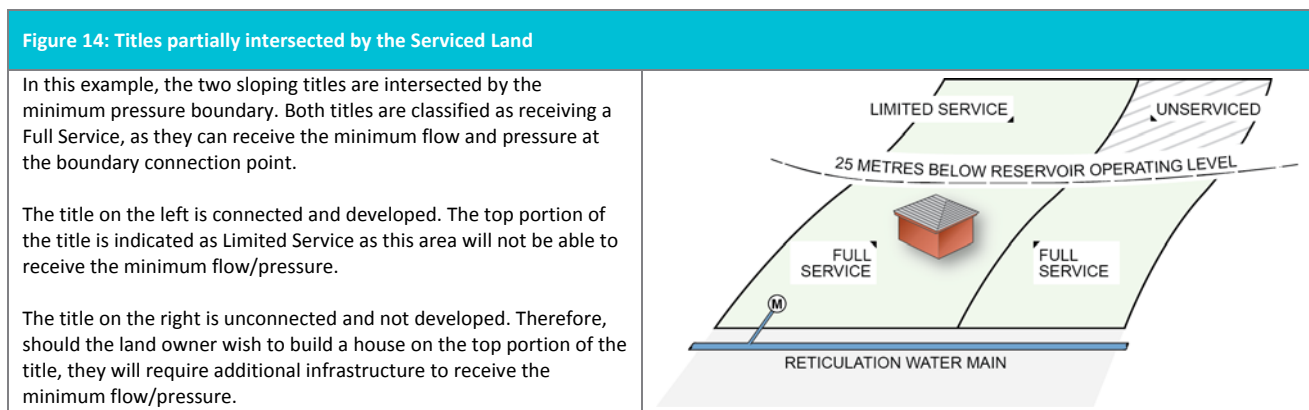
Table 49 below defines the assessment of water services for the purpose of identifying Serviced Land.

Table 49: TasWater definition of water services for the purpose of identifying Serviced Land

Titles with Full Service	Titles with Limited Service	Titles that are Unserviced
<ul style="list-style-type: none"> • Can be supplied with treated water²⁶ and <ul style="list-style-type: none"> ○ Are within 30 metres of a TasWater reticulation main and can receive the minimum flow and pressure; or ○ Are currently connected and receiving the minimum flow and pressure. 	<ul style="list-style-type: none"> • Receive untreated water; or • Directly connected to a bulk transfer main (referred to as a wayside connection – refer to Figure 15 below); or • Are currently connected but do not receive the minimum flow or pressure. 	<ul style="list-style-type: none"> • Are not connected and <ul style="list-style-type: none"> ○ Are not within 30 metres of a TasWater reticulation main; or ○ Are within 30 metres of a TasWater reticulation main but require an easement over private land (refer to Figure 18 below); or ○ Are within 30 metres of a TasWater reticulation main but are unable to be serviced with the minimum flow or pressure.
<p>These titles are charged the full fixed water charge.</p>	<p>These titles are charged a discounted fixed water charge.</p>	<p>These titles are not charged a fixed water charge.</p>

Some titles are partially intersected by the Serviced Land. These titles are serviced as indicated, however there may be limitations to supplying some parts of the title: for example large sloping titles above a certain contour level may not receive the minimum pressure/flow service on some portions of the title. Refer to Figure 14 below for an example.

Title owners should be aware of such limitations, especially for vacant land, to assist with positioning of a house.



TasWater has inherited a number of non-standard connections, including:

- Wayside connections (refer to Figure 15 below)

²⁵ 20 L/m is more conservative figure compared with the Code specified 15 L/m: this is to allow for inaccuracies with contour data and errors in the asset data (pipe sizes, etc.).

²⁶ Treated water, for the purposes of Serviced Land, includes disinfection only and full treated water supplies and excludes raw water supplies. Refer to 7.1.4 (Water quality issues) for further details.

- “Piggy back” connections / stranded assets (refer to Figure 16 below)
- Water connections to a small bore pipe (refer to Figure 17 below)
- Connection requiring easements (refer to Figure 18 below).

Figure 15: Connections to non-reticulation infrastructure

Unconnected titles within 30 metres of non-reticulation infrastructure (i.e. bulk transfer mains) are classified as Unserviced.

In some cases a connection may be technically possible but each situation will need to be determined via an engineering assessment.

Wayside connections, which are those customers already connected to a bulk transfer or distribution main without a service reservoir in the local reticulation, are referred to as wayside connections, and will be classified as receiving a Limited Service.

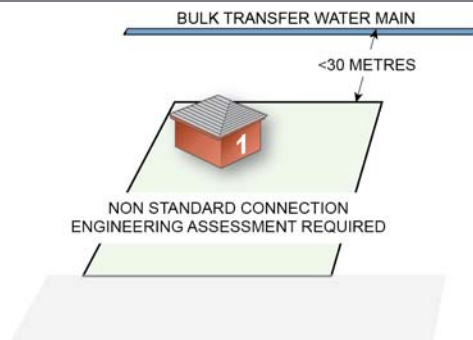


Figure 16: “Piggy back” connections / stranded assets

House 1 has a standard connection and is classified as receiving a Full Service.

The water meters at House 2 and 3 are TasWater’s and are stranded assets. The interconnecting pipes beyond the first boundary with the road reserve are the responsibility of the individual landowners.

As Houses 2 and 3 are existing legacy connections they are classified as receiving a Full Service (assuming they receive the minimum flow and pressure).

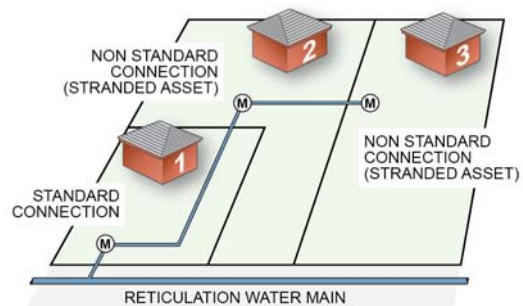


Figure 17: Water connections to a small bore pipe

Permitting water connections from the Unserviced Titles to the DN25 water pipe would reduce the pressure and flow to the existing customer receiving a Full Service.

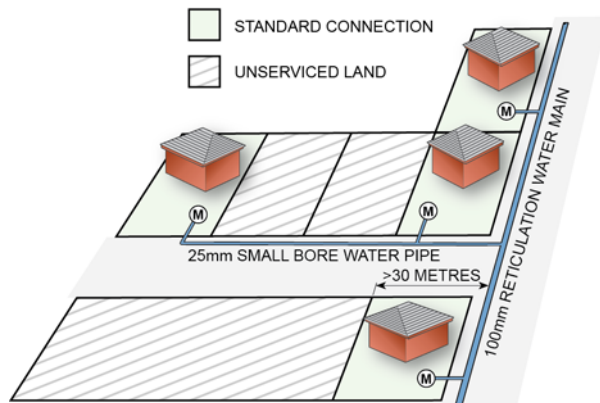


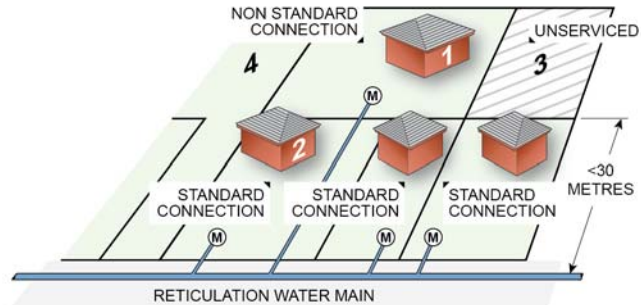
Figure 18: Connections requiring an easement

The connecting pipe to House 1 is a private (non-TasWater) asset and the responsibility for it, whether or not it is in a legal easement, is a matter for the affected land owners.

As House 1 is an existing legacy connection it is classified as receiving a Full Service (assuming it receives the minimum flow and pressure).

Even though Property 3 is within 30 metres of a reticulation main, an easement through private land is required, therefore it is Unserviced.

Property 4 does not require an easement through private land, therefore it is classified as able to receive a Full Service.



7.1.4. Water quality issues

For the purpose of Serviced Land, treated water includes disinfection only and full treated water supplies and excludes raw water supplies. Areas with temporary or permanent Do Not Consume/Boil Water Alert water quality issues do not affect the classification of Serviced Land. That is, assuming the titles receive the minimum pressure and flow, they will be classified as Full Service. For billing purposes, however, customers experiencing such water quality issues may be eligible for a discount in the variable water charge consistent with section 6.5.2.

Titles receiving untreated/raw water will be classified as receiving a Limited Service and will be subject to a discounted fixed water charge.

7.1.5. Description of Serviced Land – Sewer

With respect to gravity sewer services, TasWater has used the following rule to assess whether a connection is possible:

- There is positive fall ($>0^\circ$) from the title to the reticulation main.

Table 50 below defines the assessment of sewer services for the purpose of identifying Serviced Land.

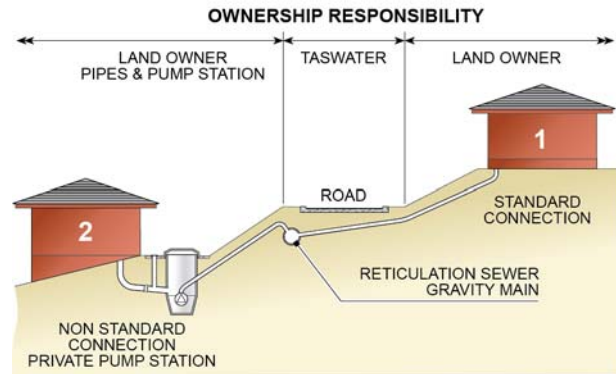
Table 50: TasWater definition of sewer services for the purpose of identifying Serviced Land

Titles with Full Service	Titles that are Unserviced
<ul style="list-style-type: none"> • Are within 30 metres of a TasWater reticulation main and are able to connect via a gravity connection; or • Are currently connected to a TasWater gravity reticulation main via a private pumping station (refer to Figure 19 below); or • Are currently connected to a TasWater pressure reticulation sewer main. 	<ul style="list-style-type: none"> • Are not connected and <ul style="list-style-type: none"> ○ Are not within 30 metres of a TasWater gravity reticulation main; or ○ Are within 30 metres of a TasWater reticulation main but cannot connect via a gravity connection, therefore require a private pump station service (refer to Figure 19 below); ○ Are within 30 metres of a TasWater reticulation main but require an easement over private land.
<p>These titles are charged the full fixed sewer charge.</p>	<p>These titles do not receive any sewerage charges.</p>

Figure 19: Private pump station connections

House 1 has a standard connection and is classified as receiving a Full Service.

Prior to connection, House 2 would have been classified as Unserviced. However after an engineering assessment had been performed, House 2 has a private pump station connection and is now classified as receiving a Full Service.



With respect to pressure sewer schemes, titles that are currently connected are classified as receiving a Full Service. Unconnected titles within a pressure sewer scheme are classified as Unserviced. Table 51 lists the current pressure sewer schemes operated by TasWater.

Table 51: List of current pressure sewer schemes

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

7.1.6. Non-standard systems

The following non-standard systems in Table 52 below have been identified separately and require an engineering assessment to determine the requirements for a connection:

Table 52: List of non-standard systems

Area	Type of service	Type of system
Launceston City	Sewer	Combined stormwater and sewerage
Queenstown	Sewer	Combined stormwater and sewerage
Beauty Point	Sewer	Septic sewer system
Blessington Street, South Arm	Sewer	Septic sewer system
Bronte Lagoon	Sewer	Septic sewer system
Granville Harbour	Sewer	Septic sewer system
Mountain River	Water	Water system; service replacement in progress
Pioneer	Water	Water system; service replacement in progress

7.1.7. Unserviced land

Unconnected properties that do not fall within the standard definitions, as set out above, will be identified as Unserviced. However, there may be some exceptional circumstances TasWater will allow these properties to connect to its infrastructure.

Property owners wishing to connect in one of these areas must contact TasWater as an engineering assessment will be required to determine whether connection is feasible or not.

Fees and charges may apply subject to the following TasWater policies:

- Connection Policy
- Service Extension & Expansion Policy
- Service Introduction Charges Policy
- Developer Charges Policy.

7.1.8. Publication of Serviced Land

From 1 July 2015, TasWater will publish the Serviced Land Layer depicting its water and sewerage Serviced Land across the state and the different levels of service provision within those areas (i.e. Full Service or Limited Service) on its website at www.taswater.com.au.

TasWater will utilise LISTmap (maps.thelist.tas.gov.au) to publish the Serviced Land Layer.

7.1.9. Updates to Serviced Land

TasWater's Serviced Land area has been developed based on a desktop assessment and is dependent upon the data available, and the associated accuracy and completeness. The Serviced Land will evolve and improve over time as TasWater continues to build and improve its data and knowledge about its assets, services and customers.

All increases in Serviced Land will be made in accordance with the Service Extension & Expansion Policy and/or the Service Introduction Charges Policy. These increases do not require the prior approval of the Economic Regulator.

Any reductions in Serviced Land (eg as a result of service replacement) will need to be approved by the Economic Regulator before they take effect.

TasWater will update the Serviced Land Layer on at least a monthly basis, and provide a report of any changes (i.e. list of titles added/removed from Serviced Land) no less frequently than on a monthly basis.

Where a customer is of the view that TasWater's Serviced Land for their title is incorrect, they should contact TasWater (via 13 6992 or enquiries@taswater.com.au) so the issue can be appropriately investigated and addressed.

7.2. Customer Contract

In accordance with the Industry Act, TasWater is required to enter into customer contracts with its customers. TasWater has revised its customer contract for regulated services (the provision of water services or sewerage services) under this Price and Service Plan. The customer contract accords with the Customer Service Code and has been approved by the Economic Regulator.

A customer contract is defined in the Industry Act as 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 customer contract includes particulars of the contract prices, or the manner in which the contract prices are to be calculated or determined, in relation to the provision of water or

sewerage services. The customer contract also sets out rights and obligations including a customer's right in any dispute with TasWater. In certain circumstances the customer contract may be varied, but any variation must be submitted to the Economic Regulator for approval and will subsequently be notified to all of TasWater's customers.

TasWater's customers are deemed by section 60 of the Industry Act to have entered into a customer contract for the provision of water services and sewerage services, or for either of those services, as provided for in the customer contract. The customer contract is a legally enforceable document.

A copy of the customer contract is published on TasWater's website at www.taswater.com.au. Customers may request, and TasWater must provide, a copy of the customer contract at cost.

A copy of TasWater's Customer Contract is included at Attachment 8.1 to this plan.

7.3. Connection Policy

The Connection Policy, included at Attachment 8.2, sets out the circumstances in which TasWater will permit an owner of land that is within TasWater's serviced land to connect, relocate or adjust (water connection downsizing, water or sewerage disconnection) a connection to TasWater's water or sewerage infrastructure.

This policy does not cover situations where:

- a property is outside TasWater's Serviced Land and expansion is required to connect the property to TasWater's water and sewerage infrastructure;
- a property within TasWater's Serviced Land is being subdivided; or
- there is a change in land use within TasWater's Serviced Land.

These situations have the potential to increase demand on the capacity of TasWater's water and sewerage infrastructure and are addressed under TasWater's Service Extension and Expansion Policy and TasWater's Service Introduction Charges Policy, or by a contract entered into in accordance with section 61 of the Industry Act.

The relevant charges for connections, relocations and adjustments, as approved by the Economic Regulator, are set out in Table 48 in Chapter 6.

7.4. Service Charges policy

Section 68A of the Industry Act provides TasWater with the ability to levy a service charge on a property which is within the Serviced Land area but not connected to water and/or sewerage infrastructure. This can equally apply to both vacant land and built on land that is not connected.

Historically, as a result of differences in the identification of Serviced Land across the regions there have been some inconsistencies in the application of service charges. TasWater is of the view that a single approach to the identification of Serviced Land will positively impact the consistent application of service charges across the state.

The issue of service charges generally was one of the key themes/issues that was raised through consultation undertaken by TasWater in 2014. It was also raised as part of consultation undertaken by the Economic Regulator during its investigation.

As discussed in Chapter 2, a number of submissions discussed this issue and the responses shared a common view that the charges should either be wholly removed, with customers able to opt out from receiving a reticulated supply as is the case with other utilities such as gas, telecommunications, or electricity.

Notwithstanding feedback received, for 2015-18 the Economic Regulator has approved TasWater continuing to levy service charges on properties that are within the Serviced Land area and where there are services available through a water main or sewerage main passing the property, but the property is not connected, consistent with the provisions of section 68A of the Industry Act.

TasWater is of the view that it is appropriate for all customers who can connect to a service to contribute to the cost of the network; in part because it is an important factor in minimising prices in sparsely populated geographical areas. Revenue collected from levying the charge is not insignificant and it allows services to be provided on a more cost effective basis.

Service charges will be levied on new allotments located within TasWater’s Serviced Land, irrespective of whether the allotments are developed or not. In addition, service charges will vary according to the type of service (ie full or limited) a customer might expect to receive upon connection, which will be informed by the identification and classification of Serviced Land.

Consistent with the approach during the 2012-15 period, the Economic Regulator has approved that the service charge for water will be equal to the fixed water charge for 20mm connections, recognising that no consumption occurs on these properties.

In addition, the Economic Regulator has approved that the service charge for sewerage will be 60 per cent of one ET fixed sewerage charge, recognising that no volume of sewage is discharged. This is also consistent with the arrangements that applied for 2012-15.

The Economic Regulator has approved TasWater levying a service charge where a property is located within Serviced Land and the water service or sewerage service available to the property is limited under the definition of Serviced Land. Service charges for such properties will be discounted in accordance with the 2015 Price Determination made by the Economic Regulator.

The approved services charges for 2015-18 are set out in Table 53.

Table 53: 2015-18 Service charges for unconnected properties (\$)

	2015-16	2016-17	2017-18
Water service charge	\$329.48	\$329.48	\$329.48
Sewerage service charge	\$337.60	\$357.88	\$379.32

Service charges will be billed to customers on a quarterly basis in advance.

A copy of TasWater’s Service Charges Policy is included at Attachment 8.3.

7.5. Water Sub-metering

Sub-meters are individual water meters that measure water usage downstream of a master meter. A master meter is the meter installed at the connection point and measures the total volume of water supplied to a property.

Under the currently legislated planning scheme there is no requirement to sub-meter individual lots or units in strata schemes or multi-unit properties respectively. With respect to new developments the installation of sub-meters is at the discretion of the property owner. In existing strata schemes, all lot owners in a strata scheme must agree to sub-metering. In existing multi-unit properties, sub-metering is at the discretion of the property owner. In both existing strata schemes and multi-unit properties the ability to

sub-meter is dependent on plumbing being suitable for sub-metering. However, property owners are encouraged to consider installing plumbing that will support the future sub-metering of their property.

The three former regional water corporation's price and service plans for the first regulatory period (2012-15) included a Water Sub-Metering Policy with the regional corporations focussing on ensuring that water supplied to a property passed through at least one meter.

The aim of the new sub-metering policy is to outline TasWater's approach to sub-metering and billing of existing and new strata schemes and multi-unit properties for the second regulatory period (2015-18). The new policy also aims to address the lack of clarity that existed previously in relation to the treatment of owners of properties with different metering configurations. A copy of TasWater's Water sub-metering Policy is included at Attachment 8.4.

TasWater undertakes that additional information and documentation (including relevant application forms, diagrams and guidelines) regarding the process and procedures to be followed by strata title owners in deciding whether or not to install sub-meters will be made available on its website from 1 July 2015. The documentation is 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?).

7.6. Service Extension and Expansion

Section 56J of the Industry Act requires TasWater 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.

Service extension and expansion is closely linked to TasWater's description of Serviced Land, its approach to connection of properties to water infrastructure and/or sewerage infrastructure, and its approach to developer charges.

In summary, service extension relates to the lengthening of water infrastructure and/or sewerage infrastructure to enable connection of unserviced land to a current water system and/or sewerage system. Service expansion, however, relates to 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 and/or sewerage system's capacity.

For the 2015-18 period, the costs of service extension and expansion will be determined in accordance with TasWater's Service Introduction Charges Policy or Developer Charges Policy (as relevant), which are discussed in more detail in sections 7.7 and 7.8 respectively.

A copy of TasWater's Service Extension and Expansion Policy for 2015-18 is provided at Attachment 8.5.

7.7. Service Introduction

Service introduction is the construction of water and/or sewerage infrastructure to provide reticulated water and/or sewerage services in areas not previously receiving those services.

Service introduction charges are one-off charges levied on the owner of a property where a service is introduced. The charge covers the property owner's share of the cost of installing, altering or utilising TasWater's assets so a regulated service can be provided to that property. It excludes connection charges, fixed charges and developer charges.

For 2015-18, the Economic Regulator has approved that TasWater will consider proposals for the introduction of water services and/or sewerage service, but that in order to proceed:

- beyond preliminary design and community consultation the service introduction proposal must be commercially viable; or
- it must have been identified by the local Environmental Health Officer, the Environment Protection Authority or the Department of Health and Human Services, that the absence of water services and/or sewerage services is causing significant and/or wide scale environmental harm and/or public health issues.

The Economic Regulator has also endorsed TasWater's view that its service introduction charges policy should include a threshold approval test relating to the level of community support required for a service introduction proposal to proceed. TasWater considers this necessary as it does not have the ability to compel property owners to connect to its infrastructure most service introduction proposals will typically come at significant cost.

In order to meet the 'commercially viable' test, TasWater has determined that a community support/take-up threshold of 80 per cent will apply. This threshold will be a key input to the calculation of service introduction charges, which are discussed further below.

Practically, this approach would mean that upon receiving a service introduction proposal, TasWater would undertake high-level, preliminary design work and calculate preliminary service introduction charges (using the community support/take-up threshold) in order to consult with the affected town or community on the proposal.

In the event that community support of 80 per cent or greater is obtained, TasWater would undertake detailed design work and prepare a business case to present to its Board. One of the requirements for a business case to proceed following approval by the Board would be that the threshold is met in terms of contractual take-up by owners of developed land within the proposed serviced introduction area.

Service introduction charges

For 2015-18 the Economic Regulator has approved TasWater calculating service introduction charges based on a net present value methodology, with the key principle being that the cost of introducing the service/s for a specific area is recovered from the customers who benefit through a combination of an upfront charge and periodic charges. Importantly, this means that existing customers are not cross-subsidising those customers where a service/s is introduced.

More specifically, the service introduction charge will be calculated by determining the cost of providing the assets specific to the service being introduced and subtracting the present value of the amount that would be recovered from the threshold amount of customers through ongoing service charges.

In the event that TasWater is directed by a Council, the EPA or DHHS to progress service introduction to a community/township, no service introduction charge will be imposed on property owners in that area.

Consistent with the Price and Service Plan Guideline and the Economic Regulator's Final Report, TasWater undertakes that it will calculate and publish proposed service introduction charges per property, per service, prior to undertaking community consultation on any intended service extension subject to service introduction charges.

Service introduction charges will vary across the state as the assets required to service one area will be different to those required for another. They will not be levied on new developments to which developer charges apply.

These charges will be levied from the date on which the water and/or sewerage service becomes available. Consistent with the requirements of the Pricing Regulations, TasWater will allow the owner of a property subject to a service introduction charge to pay that charge:

- over a period of 12 months; or
- at the owner's request, over a period of less than 12 months.

Once a property is connected following the introduction of a service, a connection fee for water and/or sewerage services will be payable by the customer. In addition, recurrent fixed and variable charges will apply thereafter.

A copy of TasWater's Service Introduction Charges Policy is provided at Attachment 8.6.

7.8. Developer Charges

Developer charges refer to assets gifted by developers and cash payments made by developers to TasWater related to the construction of reticulation works for new developments.

Traditionally developer charges are made up of three components:

- **Works Internal** – any infrastructure which is internal within a development is installed at a developer's cost and gifted to TasWater
- **Works External** – any infrastructure which is external to a development, for extension and/or expansion, required to service the development installed at a developer's cost and gifted to TasWater.
- **Headworks charges** – the payment of cash by developers to TasWater for the proportional costs of the capacity consumed of existing headworks infrastructure and/or expansion of capacity required as a result of a property development.

For the 2015-18 period, the Economic Regulator has approved TasWater taking a Serviced Land based approach to developer charges, where spare capacity will be made available at no charge. There will be no change to the way in which site infrastructure (works internal) and connection (works external) costs are calculated and funded, and headworks charges will no longer be applicable.

Rationale for the Shift in Approach:

Historically, headworks charges were applied to recover the value of installed spare capacity within a water and sewerage network and it is the calculation and application of this component, which has been strongly criticised by developers. In short, TasWater's previous policy of applying the NPV approach was perceived as a significant disincentive to development on the basis that it was expensive, difficult to calculate and dependent on a number of assumptions that are not easily verified.

The Board of TasWater commissioned an external review using Frontier Economics (FE). FE found that a significant and unintended consequence of the previous policy was that the approach was perceived as a significant disincentive to development and sending inappropriate price signals. In the low growth economic environment in Tasmania, TasWater's owners, Board and management focussed on the development of a policy that would be appropriate for, and contribute positively to, the Tasmanian community.

In the lead-up to the State Election in March 2014 both major parties announced policies delivering support to development in the form of a waiver of headworks charges. Ultimately, the newly elected State

Government introduced a headworks charges waiver for a two-year period from 1 April 2014 to 31 March 2016.

Shortly thereafter, FE delivered its final report and TasWater's Board recommended to its owners that they support adoption of a revised approach to headworks charges, whereby no headworks charges are payable on developments where capacity (planned or historical) exists within a system.

Previous 2012-15 approach to developer charges

TasWater's previous developer charges policy provided for upfront charges, in three components, to be imposed on developers (and subsequently recovered from property owners) as a condition of connection to TasWater's water or sewerage network infrastructure.

The three components of developer charges as set down in the previous developer charges policy were, works internal, works external and headworks, where headworks was the payment of cash by developers to TasWater for the proportional costs of the capacity consumed of existing headworks infrastructure and/or expansion of capacity required as a result of a property development. These charges were usually levied on a per property/lot basis for a new subdivisional development.

The policy required developers to pay headworks charges applicable only to their development, calculated on a zonal basis as the difference between the cost of the assets required to service the headworks zone and the amount funded by periodic future charges over a defined time period (ie the NPV).

The key principle of the NPV methodology was that, so as not to place an additional burden on existing customers, the cost of providing water and sewerage services for a specific development area is fully recovered from both upfront headworks charges and periodic annual charges. While this methodology appeared sound, particularly on an economic and social equity basis, its inclusion of sunk costs resulted in what FE termed "perverse price signals" whereby spare capacity was priced out of the market and not taken up by developers, to the detriment of the larger customer base (ie the Tasmanian community).

In summary, the policy hindered economic development with spare system capacity sitting unutilised, installed but not taken up, being paid for by all existing customers and with no marginal revenue (in the form of additional annual charges from new customers) being received.

Approved Developer Charges policy for 2015-18

TasWater's developer charges policy for 2015-18 takes a Serviced Land approach to developer charges which transitions smoothly into the preferred direction of developer charges aligned with TasWater's Strategic Asset Management Plan.

Essentially, the new approach has two fundamental principles:

1. any existing system capacity is made available at no additional charge to developers
2. regarding works internal and works external, developers pay no more than the costs required to service their development.

This means that for developments within Serviced Land where capacity is available, that spare capacity will be made available at no additional charge, ie there is no headworks charge. The usual costs of works internal and works external will apply.

Where capacity is not available within Serviced Land the developer will need to install that capacity at its cost, in addition to the usual costs of works internal and works external.

For developments outside of Serviced Land where capacity is available within a nearby existing system, the developer will pay the costs of extension, including connection, to that system but will access the capacity in

that system at no additional charge, ie there is no headworks charge. The usual costs of works internal and works external will apply.

For developments outside of Serviced Land where insufficient capacity is available within a nearby 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 spare capacity in that system that is less than the total required for the development will be made available at no additional charge ie there is no headworks charge. The usual costs of works internal and works external will apply.

For isolated developments all costs are paid by the developer. TasWater may review the development to assess whether any strategic benefits are delivered by the development and, if so, may at its complete discretion contribute to the development.

TasWater long-term approach to developer charges

TasWater's aim for the 2015-18 period was to implement a developer charges policy that is linked to its Strategic Asset Management Plan (SAMP). The draft Price and Service Plan proposed a policy that was developed on that basis.

The proposed policy saw that no charges (other than works internal and works external) would apply for developments that are consistent with TasWater's growth plans but charges would apply for developments that require TasWater to bring forward works ahead of schedule or if development is outside of any growth plan. Developments would be assessed by location, but those developments occurring within planning envelopes (both physical and temporal) would have no charge applied for taking up spare capacity.

More specifically, it involved removing headworks charges for all development that is consistent with its infrastructure growth plans, introducing "out of sequence charges" for developments that require TasWater to bring forward works ahead of schedule and the introduction of "isolated development charges" if development is outside any growth plan.

TasWater is of the view that this policy would encourage the alignment of development with strategic land use planning and continue to deliver price signals (ie relative to the burden a development places upon infrastructure capacity), therefore providing the most appropriate arrangements for Tasmania. Further, it would deliver simplicity, transparency and consistency of developer charges pricing across Tasmania.

As TasWater's SAMP, and system based asset management plans, had not been developed to a point where sufficient certainty could be provided to developers, the Economic Regulator expressed concern about the practicality of implementing the proposed policy for this regulatory period and instead approved the Serviced Land based approach to developer charges as described earlier in this section.

TasWater foresees the implementation of a developer charges policy that is aligned to strategic land use and asset management planning in the third regulatory period commencing 1 July 2018. The Serviced Land approach introduced for the 2015-18 period is consistent with that direction. In order to progress the long term aim over the 2015-18 period, TasWater will bed down its SAMP, develop system based asset management plans and continue to work with all stakeholders, including industry and the Economic Regulator.

7.9. Trade Waste Charges

TasWater provides a service to collect, transport and treat liquid trade waste provided it is of an appropriate volume and quality to be safely accepted to our wastewater systems. TasWater's sewerage network and treatment plants are typically designed for domestic waste. Consequently there are additional costs

associated with the management, transportation and treatment of liquid trade waste through these networks.

Previous 2012-15 approach to trade waste charging

For the 2012-15 regulatory period, TasWater (and the former regional corporations) applied a nominal risk based scheme to assess the impact that trade waste discharged by the customer had on the sewerage network.

There were two regulated categories of trade waste customers: Category 1 and 2, and two unregulated categories of trade waste customers: Category 3 and 4.

Category 1 and 2 customers were those assessed as having low grade or low to medium volumes of trade waste, while Category 3 and 4 customers were considered to be higher risk with respect to their impact on the sewerage network.

Trade waste charges for Category 1 and 2 customers were set by the Economic Regulator as part of the 2012 price determination, as were the terms of the standard regulated contract allowing those customers to discharge liquid trade waste to sewer.

Category 1 and 2 customers were non-residential, typically business, generally commercial in nature. Category 3 and 4 customers were unregulated and those customers were required to negotiate a contract with TasWater under section 61 of the Industry Act specific to their individual needs and risks.

The 2012 price determination and the first regional Price and Service Plans set out specific commitments and regulatory responsibilities relating to the provision of trade waste services to customers. In this regard TasWater completed the statewide identification of customers receiving a trade waste service and introduced trade waste charges to their accounts. Further, in keeping with TasWater's commitment to transition all customers to equitable charges for trade waste services, existing customers were either paying target prices or transitioning to the target prices in accordance with 2012 determination.

With respect to the identification of customers, 3,463 commercial customers were identified to be receiving a trade waste service during the first regulatory period. These customers were classified as category 1 or 2 customers depending on an initial assessment of their trade waste discharge.

Regulated Trade Waste Categorisation

TasWater is committed to providing a comprehensive trade waste service to trade waste customers statewide in accordance with the pricing principles outlined in the Industry Act. TasWater's aim for the 2015-18 regulatory period is to:

- better reflect the costs of servicing trade waste customers, while promoting economic efficiency
- provide certainty through the use of clear criteria for categorising low risk commercial trade waste customers
- aid TasWater's adoption of prices transitioning to one consistent set of trade waste tariffs across the whole state
- embed a methodology which acknowledges the demands of a customer's business activities on TasWater's sewerage infrastructure
- increase the ability for customers to self-assess their trade waste requirements and responsibilities through improved accessibility to relevant information and assistance.

To meet this aim, TasWater has refined the previous trade waste categories using an improved technical and commercial risk assessment of trade waste impacts on the sewage system as the basis for categorisation and calculation of trade waste charges.

The risk approach is based on a method outlined in the 'WSAA Australian Sewage Quality Management Guideline 2012', which is recognised nationally as the most comprehensive guideline to managing trade waste discharge to sewer. It sees Category 2 broken into sub-categories A, B and C. This method is outlined in more detail in TasWater's Trade Waste Customer Category Guideline which is available on the website at: www.taswater.com.au.

In determining a customer's overall risk score and therefore their applicable category, the following factors are taken into account:

- **Business Activity (A)** – customers are allocated based on differing specific business activity, (eg supermarket, bakery, restaurant, automotive service/repair) which will determine their business activity score of either five or 10²⁷.
The score is based on consideration of the typical strength and composition of the waste stream, and the robustness and degree of control of the process producing the waste stream.
- **Substance score (S)** – A score is applied based on the substance considered to be of most concern to the operation of TasWater's sewerage infrastructure. Substances are grouped according to the risk they pose to health and safety, infrastructure, treatment processes, and compliance obligations, among other things.
The substance of most concern is used as the indicator for the substance score (eg for a restaurant the most common substances of concern are fat, oil and grease). If there are multiple substances present, only the highest score is applied. Substances that pose these risks are grouped in three ways, being low, medium and high impact, and attract risk scores of five, 10 and 15 respectively.
- **Pre-treatment score (P)** – a customer's pre-treatment score is determined based on the type and complexity of pre-treatment device required for different business activities.
Pre-treatment fixtures are grouped in three ways, being low, medium and high risk, and attract risk scores of five to eight, 15 and 18 respectively.
- **Trade Waste Volume score (V)** – a customer's volume score is based on three inputs:
 - metered water consumption for the business for the 2012/13 financial year
 - reduction in volume on assumption that 80 per cent of metered consumption is discharged to sewer
 - reduction in the sewer discharge volume based on agreed industry discharge factors.

There are four volume groups (based on volumes of up to 300kL pa, 301-600kL pa, 601-1100kL pa and greater than 1101kL pa) which attract risk scores of five, 10, 20 and 30 respectively.

Customers may request a review of the trade waste volume score at any time during the regulatory period if they feel their water use is significantly different to the volume applied when calculating the risk score or where their usage has increased or decreased by a large amount. Also, if a customer feels the trade waste volume calculated is not accurate they may apply to TasWater to install a separate meter to measure the water used for trade waste generating activities.

The first three factors group 'like' businesses together based on elements typical to business activity, and the volume score provides the differentiation necessary to accurately categorise trade waste customers according to their demand on the sewer system.

The combined risk scores, customer categories and the number of customers expected to be in each category are set out in Table 54.

²⁷ Customers are grouped by business activity on the premise that businesses conducting the same activity will produce a similar waste stream.

Table 54: Trade waste risk scores and categories for 2015-18 regulatory period

Lower Risk Score	Upper Risk Score	Risk Category	No of Customers
0	39	1	869
40	49	2A	2,104
50	59	2B	243
60+		2C	251

The table above excludes Category 3 and 4 customers, of which there are approximately 100, who are managed through individual contracts.

Trade Waste Charges Policy for 2015-18

With respect to determining trade waste charges to apply for the 2015-18 regulatory period, TasWater reassessed the time and effort required to effectively conduct the administrative, auditing and technical functions of managing liquid trade waste. This was conducted using current available data and learnings gained during the 2012-15 period.

By increasing customers' ability to self-assess their trade waste status administrative efficiencies were identified and taken into account. In addition, water consumption data was available, enabling a more accurate estimation of the volume trade waste customer segments discharge to sewer.

The target trade waste charges comprise two components: an annual management component, which was calculated based on an apportionment of time spent on the administrative and technical components required to adequately manage each customer segment; and a usage component for each category, which was calculated based on deemed average trade waste discharge volumes for customers in each category. The target trade waste charges for 2015-18 as approved by the Economic Regulator are set out in Table 55.

As discussed in section 6.4, and reflected in the trade waste charges policy, all target trade waste charges will increase annually by 2.5 per cent.

With respect to trade waste customers' transition to target, as set out in section 6.4 customers above target at the start of the period will come down by 1/3 of the gap to the 2017-18 target in each year through the regulatory period, and customers below target will go up in the same manner, ie by 1/3 of the gap to the 2017-18 target in each year through the period.

In addition to target charges for trade waste, the Economic Regulator has approved TasWater continuing to charge an application fee. The application fee has been standardised and is not dependent on a customer's category. The approved application fee set out in Table 55 is sufficient to cover the time required to assess a trade waste application from a Category 1 or 2 trade waste customer.

TasWater will also continue levying non-compliance²⁸ charges, based on defined multipliers, to enable the recovery of costs associated with a trade waste customer failing to comply with the conditions of a consent. The non-compliance multipliers are applied to reflect either a minor or major non-compliant event. Minor non-compliance refers to a single event which on its own does not have a significant impact on the continued provision of a trade waste service to the customer, but if left unchecked could compromise the service. Major non-compliance events are those that are expected to cause significant impact on the sewerage network, the receiving environment or public health and safety.

²⁸ Referred to as 'exceedance charges' in the 2012-15 regulatory period.

TasWater is of the view that these charges are more reflective of the expected infrastructure and operational costs incurred by compliant businesses that have been required to install pre-treatment. The application of relevant charges for non-compliance is a critical regulatory tool in ensuring non-compliance action is applied in a consistent and timely manner, and proportionate to the level of non-compliance.

Table 55: Trade waste charges for 2015-18 regulatory period

Trade Waste Category	Application Fee	Target Tariff	Non-Compliance Charge (Minor)	Non-Compliance Charge (Major)
1	\$134.80	\$520.76	\$1,041.54	\$1,562.28
2A	\$134.80	\$853.60	\$1,707.16	\$2,560.76
2B	\$134.80	\$1,197.80	\$2,395.60	\$3,593.40
2C	\$134.80	\$1,796.40	\$3,592.84	\$5,389.28

TasWater is of the view that the approach to categorising and charging trade waste customers for the 2015-18 period achieves the following:

- Improved reflection of a customers' demand on the wastewater system, consequently improving the equity of trade waste charges for all customers
- Increased clarity for customers of the basis for categorisation and compliance requirements for each business activity
- Clearer identification of customers whose demand on the sewer requires additional management through an individual contract for Category 3 or 4 customers
- Ability to differentiate customers and target resources towards the higher risk customers where the potential benefits to the customer and TasWater are greatest
- Aids improved environmental monitoring and compliance.

With respect to Category 3 and 4 customers, notwithstanding that pricing is not regulated for these customers, TasWater recognises the complexity and potential costs involved with implementing appropriate pre-treatment and/or improving waste quality by other means to comply with conditions for acceptance of liquid trade waste to sewer for these customers.

TasWater will negotiate a transition period with Category 3 and 4 trade waste customers that reflects the reasonable time required for the customer to implement appropriate trade waste risk controls. The transition period, where applied, will involve levying volumetric and mass load charges at a percentage of the full cost. The period must conclude with the customer paying 100 per cent of costs on or before 1 July 2020 to comply with legislative requirements.

The agreed transition period may include, but is not limited to, time for funding, design, construction, installation and commissioning of pre-treatment where required. Negotiated transition periods will require customers to achieve long term sewer acceptance limits and full charges by the conclusion of the period.

7.10. Service Replacement

At the commencement of the regulatory period, TasWater continued to provide services to a number of small towns across the state, many of which do not comply with the Tasmanian Drinking Water Quality Guidelines (TDWQG).

The Economic Regulator, through TasWater's operating licence, and the Director of Public Health, through the provisions of the *Public Health Act 1997*, require all drinking water systems to comply with the health requirements of the ADWG. Essentially this implies full treatment for the majority of the systems, which has

historically provided TasWater with only two options: conform to the requirements of ADWG or instigate service replacement.

During the 2012-15 period, two service replacement solutions were being implemented for the towns of Mountain River in the state's South and Pioneer in the North. The approach for each of these towns was different: at Pioneer TasWater installed rainwater tanks and associated infrastructure whereas in Mountain River the customer was duly compensated an amount sufficient for the supply and installation of rainwater infrastructure by private contractors.

After an internal review of both solutions TasWater proposed in its draft Price and Service Plan to apply the "Mountain River" model for future service replacements. Using the learnings from these projects, and taking account of various legislative requirements, TasWater developed a consistent and transparent statewide framework for the assessment of options for how water services are provided to communities within small towns.

The framework is captured by TasWater's *Water Quality Policy*, which is supported by a *Small Towns Water Supply Guideline*, copies of which are available on TasWater's website. The Policy and Guideline seek to balance the compliance obligation to provide a safe supply of drinking water and the economic justification of major investment in very small towns. They also account for the fact that there are non-economic considerations that may warrant the installation of treatment infrastructure in meeting compliance obligations.

In this regard, the guideline requires consideration of a range of criteria relating to community health, regional planning, growth and demographic issues, town sustainability and organisational reputation. In addition, it is non-negotiable that ensuring public safety is paramount in determining TasWater's preferred approach.

In the event that service replacement is a possible solution to address water quality issues, TasWater will follow the process identified by the Economic Regulator in its Final Report. In doing so, TasWater will undertake a thorough consultation process with the residents of the affected town and other relevant stakeholders, including regulators (including DHHS, EPA, Tasmania Fire Service and relevant planning authorities), as part of the decision making process for determining the preferred solution and the details thereof.

The service replacement process that will be applied is set out in the following series of flowcharts.

Figure 20: Service replacement overview

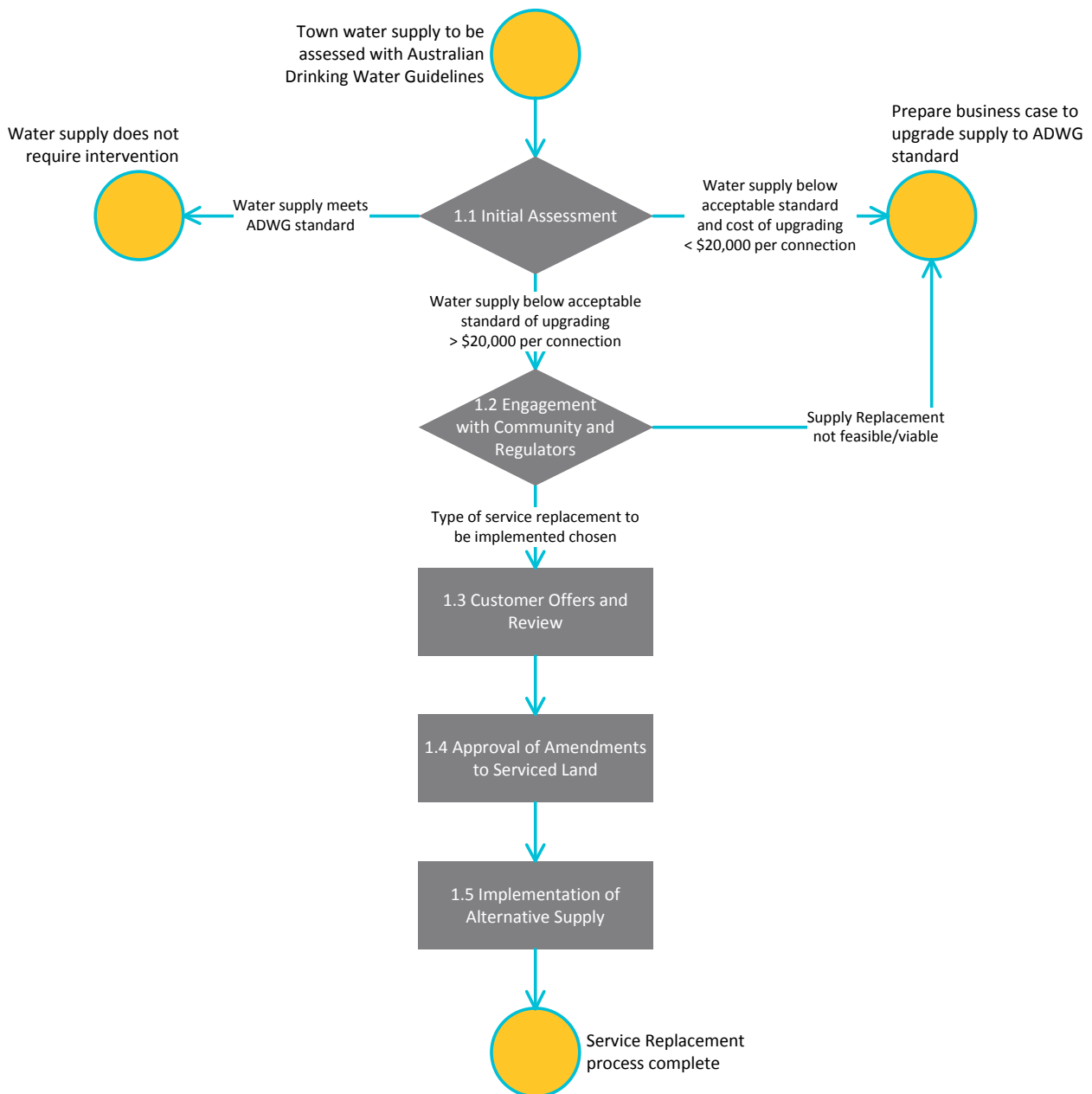
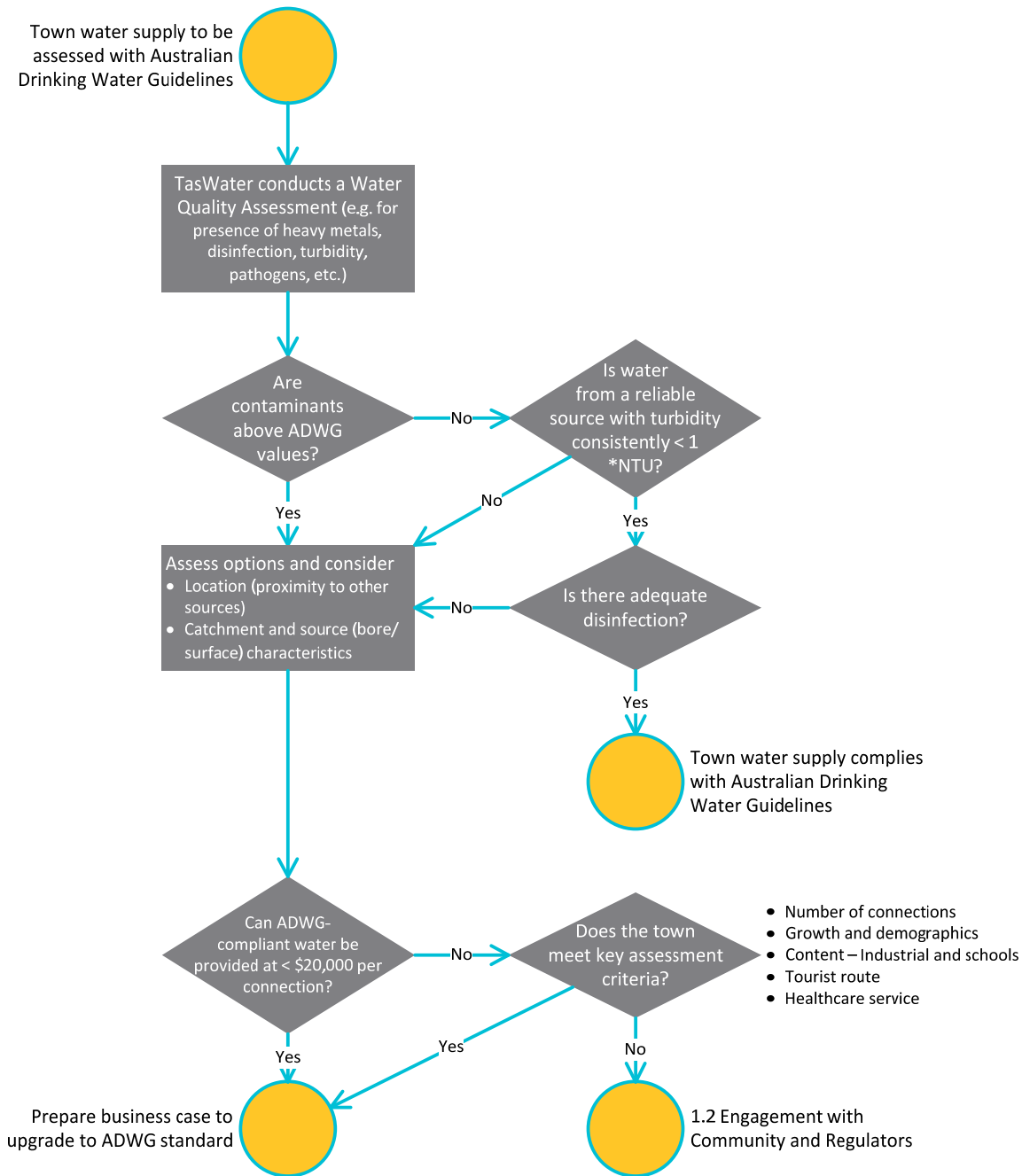


Figure 21: Initial assessment



* An NTU is a Nephelometric Turbidity Unit

Figure 22: Engagement with community and regulators

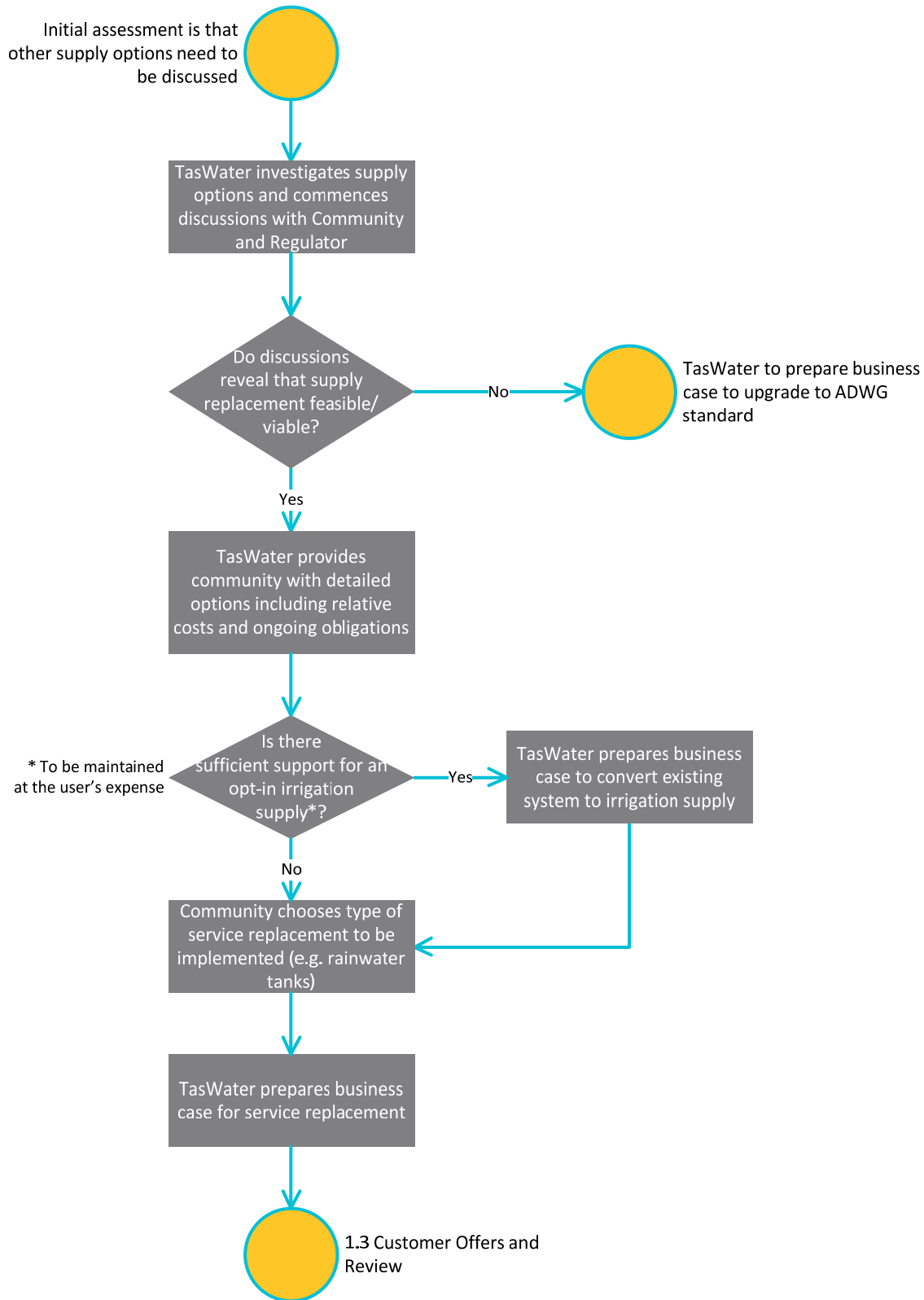
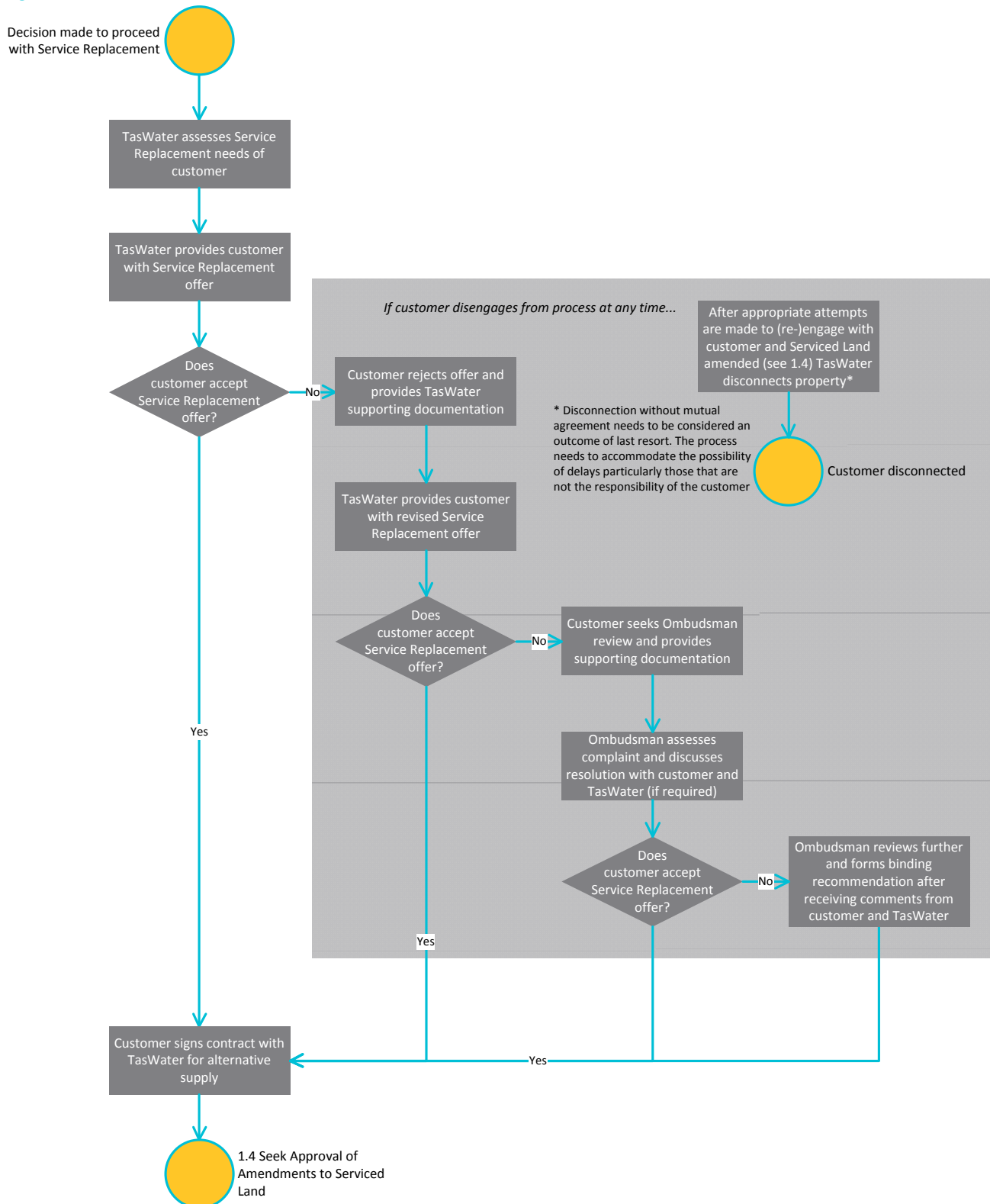


Figure 23: Customer offers and review



Note: A copy of an example service replacement contract that TasWater would offer to customers is provided at Attachment 8.13.

Figure 24: Approval of amendments to Serviced Land

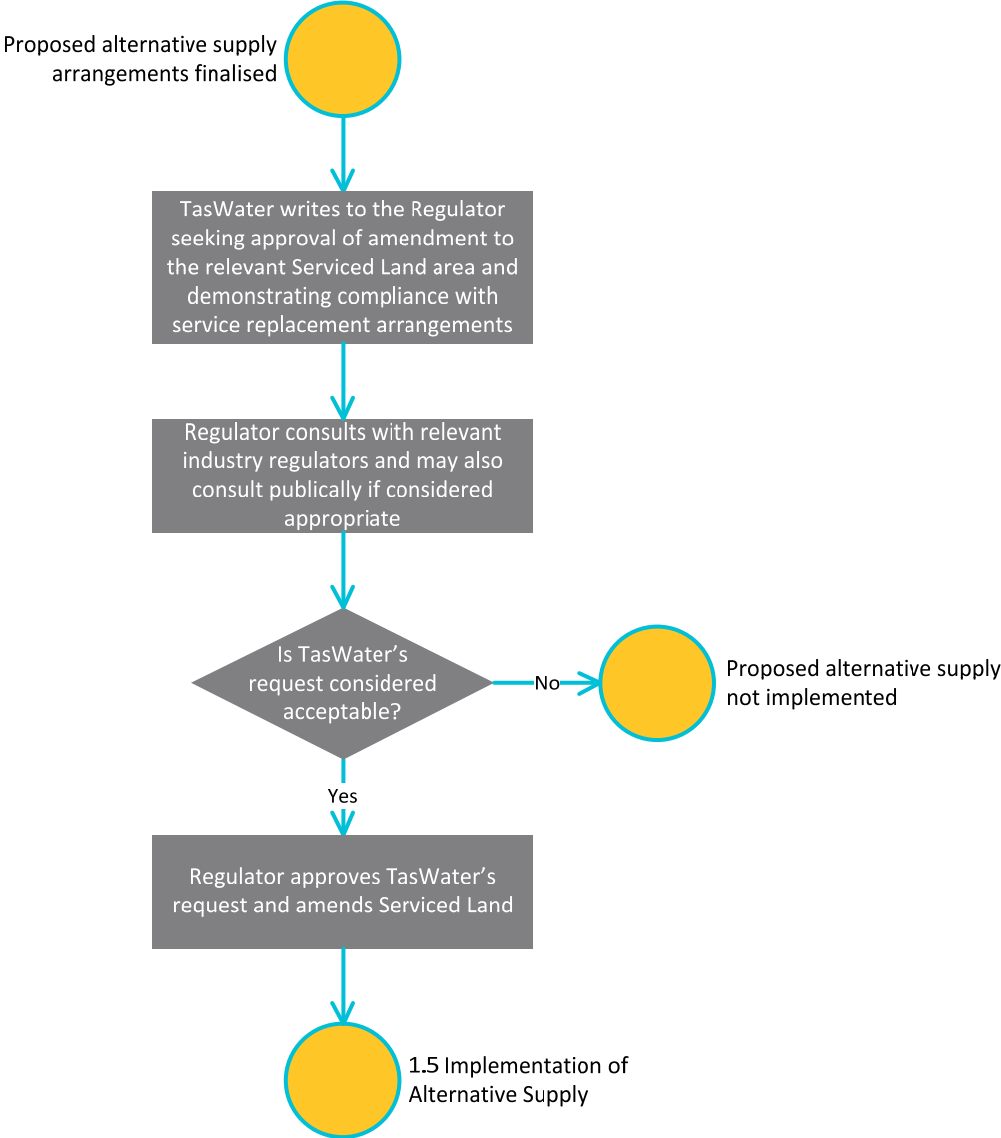
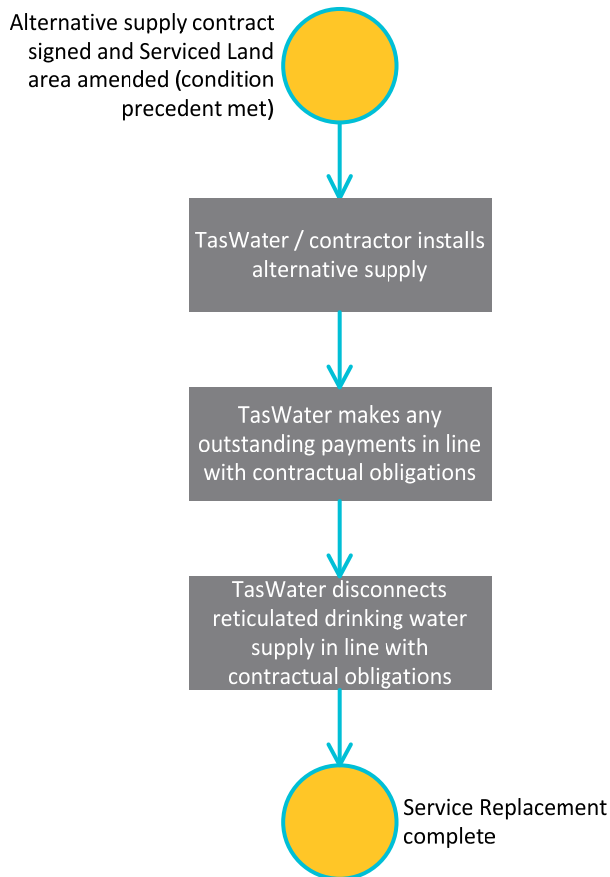


Figure 25: Installation of alternative supply



7.11. Complaints, Enquiries and Disputes Management

A complaint is defined in accordance with the Australian Standards as an “expression of dissatisfaction made to an organisation, related to its products, or the complaints process itself, where a response or resolution is explicitly or implicitly expected”. (AS ISO 10002-2006). TasWater has aligned its measurement and monitoring of complaints with the National Performance Framework.

Complaints are monitored on an ongoing basis and key metrics (including response targets of 10 business days in line with the Water and Sewerage Industry Customer Service Code) are reported to the Board on a monthly basis. TasWater’s approach to complaints management is guided by eight principles:

- Respect – TasWater respects a customers’ right to complain and will manage all relevant personal information in a confidential manner
- Visibility – information about how and where to complain is well publicised to customers, staff and other interested parties
- Accessibility – the process for making a complaint and investigating it is easy for customers to access and understand
- Responsiveness – all complaints are acknowledged promptly, addressed efficiently, with the customer kept informed throughout the process
- Fairness – all complaints are dealt with in an equitable, objective and unbiased manner
- Review – the avenues for internal and external review and/or appeal about TasWater’s response to a complaint are made known to customers
- Accountability – accountabilities for complaint management are clearly established, and complaints and responses monitored and results reported to management and the Board

- Continuous Improvement – TasWater considers each complaint a potential source for continual improvement.

A copy of TasWater’s Complaints, Enquiries and Dispute Management Policy is provided at Attachment 8.9.

7.12. Financial Hardship

TasWater recognises that residential customers may experience times of financial hardship due to changes in circumstances beyond their control. Further, TasWater is also aware of community concerns about cost of living pressures generally including the affordability of water and sewerage services.

TasWater is committed to helping customers who have the intent, but not the capacity to make payments in accordance with the terms outlined on water and wastewater accounts.

Consistent with the requirements of the *Water and Sewerage Industry (Customer Service Standards) Regulations 2009* and the Customer Service Code, TasWater’s Financial Hardship Policy offers a range of assistance methods and programs to customers including:

- payment options
- advice on concessions
- water conservation advice to lower water accounts
- a referral service so that customers may access further help.

State Government funded concessions for water and sewerage services are provided by TasWater to eligible customers in accordance with the *Water and Sewerage Industry (Community Services Obligations) Act 2009*.

TasWater will continue to meet its obligations under this Act, the Customer Service Standards Regulations, and the Customer Service Code throughout the next regulatory period commencing 1 July 2015. TasWater considers these measures to be important in delivering water and sewerage services to customers.

A copy of TasWater’s Financial Hardship Policy is provided at Attachment 8.10.

7.12.1. Special Needs

During the 2012-15 period TasWater, and the former regional corporations, offered a discount to:

- customers using kidney dialysis machines in their homes
- customers where it is determined by TasWater that they have special requirements, because of a medical condition of the customer or persons to whom services are provided by the customer
- any special needs customers as determined by the Economic Regulator.

These customers are required to reapply for the discount each year, with the quantum of the discount to be equal to 200kL per annum at the prevailing volumetric tariff (pro rata to apply).

TasWater will continue this arrangement for the 2015-18 regulatory period.

7.13. Customer Service Standards

Most regulated utility businesses are subject to minimum customer service standards and this is the case with TasWater.

The need to improve customer service levels in Tasmania was a key driver of reforms to the water and sewerage industry, and continues to be a driver for TasWater.

Consistent with the requirements of the Industry Act, the Economic Regulator has developed a Customer Service Code to apply to the Tasmanian water and sewerage sector. The Code specifies standards and

conditions of service and supply which TasWater must comply in providing water supply services intended for drinking water, reticulated drinking water that is non-potable water, and sewerage services.

The standards include issues such as the number of water leakages, sewer blockages, time taken to attend to leaks and blockages, numbers of complaints and the time taken to answer calls to the customer service centre.

The minimum service standards set out in the Customer Service Code are additional to the applicable requirements of health and environmental regulations. The first Customer Service Code was published by the Economic Regulator in July 2010 with updated versions published in April 2013 and April 2015. During the 2012-15 regulatory period, TasWater (and formerly the three regional corporations) was required to transition towards compliance with minimum standards, which were based on those adopted for similar businesses elsewhere in Australia.

The transitional service standard targets that applied for the 2012-15 period, as well as the minimum service standard targets, were all measured on an average basis. This means that TasWater (and the former regional corporations) reported aggregated performance data that was effectively averaged out across the system/state.

A significant issue for TasWater (and the regional corporations) throughout the 2012-15 period was the relatively poor quality of data and lack of well-developed systems and processes. TasWater has acknowledged on a number of occasions that this has, and continues to limit the business' ability to fully comprehend underlying performance. This is not unexpected for an organisation at such an early stage of maturity.

Requirements for 2015-18 and beyond

For the 2015-18 period, the Economic Regulator has determined, following consultation with TasWater, that some customer service standard indicators will be measured on an actual minimum basis as opposed to the previous basis of measure which was average. Indicators that do not relate to response times or duration of service interruptions, however, will continue to be measured on an average basis.

Consistent with the response to the Economic Regulator's draft report, while TasWater is not fundamentally opposed to the notion of actual minimum targets for some customer service standard indicators, it remains of the view that averages (particularly for response times) have demonstrably driven increased performance across the water sector nationally.

That aside, TasWater has worked with the Economic Regulator to propose arrangements for the next three years that are achievable, based on actual data for the period July 2014 to February 2015 (inclusive). As a result, the following measurements will apply for response time and duration related indicators from 1 July 2015:

- Response time metrics will be based on the concept that TasWater will "respond to bursts and leaks/sewer spills, breaks and chokes within X minutes Y% of the time"
- Duration metrics will be based on the concept that TasWater will "restore water/sewage service interruptions within X minutes Y% of the time, where it is safe to do so" (referencing the need to use traffic control and create a safe work environment).

The customer service standard targets for each indicator that TasWater is required to meet over the next three years are set out in the following table. As an example, using the new response time base of measurement described above, the table shows that TasWater is required to respond to Priority 1 bursts and leaks within 60 minutes 90 per cent of the time.

Table 56: Minimum service standards (as per the Customer Service Code)

	2015-16	2016-17	2017-18	Actual minimum achieved X% of time	Average standard or ratio
Water					
Unplanned water supply interruptions (per 100km of water main)	71	68	54		✓
Time taken to attend bursts and leaks – Priority 1* (minutes)	60	60	60	✓ (90%)	
Time taken to attend bursts and leaks – Priority 2* (minutes)	180	180	180	✓ (90%)	
Time taken to attend bursts and leaks – Priority 3* (minutes)	4320	4320	4320	✓ (90%)	
Average frequency of unplanned water supply interruptions (number per customer)	0.1	0.1	0.1		✓
Average frequency of planned water supply interruptions (number per customer)	0.1	0.1	0.1		✓
Average unplanned customer minutes off water supply (minutes)	25	25	20		✓
Average planned customer minutes off water supply (minutes)	20	15	15		✓
Duration of unplanned water supply interruption (minutes)	180	180	180	✓ (80%)	
Duration of planned water supply interruption (minutes)	180	180	180	✓ (80%)	
Unplanned water supply interruptions restored within 5 hours (per cent)	85	90	98		✓
Planned water supply interruptions restored within 5 hours (per cent)	80	85	90		✓
Number of customers receiving more than 5 unplanned water supply interruptions in a financial year (number)	0	0	0	✓ (90%)	
Unaccounted for water (per cent)	14	12	10		✓
Sewerage					
Sewer breaks and chokes (and spills) (per 100km of sewer main)	104	98	93		✓
Time to attend sewer spills, breaks and chokes (minutes)	60	60	60	✓ (90%)	
Sewerage service interruption (minutes)	180	180	180	✓ (80%)	
Sewerage spills contained within 5 hours (per cent)	99	99	99		✓
Customers receiving more than 3 sewerage service interruptions per year	0	0	0	✓ (90%)	

	2015-16	2016-17	2017-18	Actual minimum achieved X% of time	Average standard or ratio
Customers					
Total water and sewerage complaints (per 1000 properties)	9	9	9		✓
Water and sewerage complaints to Ombudsman (per 1000 customers)	0.5	0.5	0.5		✓
Percentage of calls answered by an operator within 30 seconds	85	85	85		✓

*Notes *:*

Priority 1: is a burst or leak that causes, or has potential to cause, substantial damage or harm to customers, water quality, flow rate, property or environment.

Priority 2: is a burst or a leak that causes, or has the potential to cause, minor damage or harm to customers, water quality, flow rate, property or environment

Priority 3: is a burst or leak that causes no discernable impact on customers, property or the environment.

TasWater has a number of projects either underway or planned that will form the building blocks for a more robust understanding of customer service standards, including:

- Asset Management Information System (AMIS)
- Field Service Management System
- Statewide Geographic Information System (GIS)
- Network Operations Centre
- Customer Records Management System.

These projects are fundamental to TasWater implementing systems and processes that allow the collection and analysis of data required to have a more informed discussion about customer service standard indicators and how these can be structured to drive the best customer outcomes in a way that acknowledges broader community drivers and outcomes needed.

Going forward, TasWater welcomes the opportunity to work with the Economic Regulator and other stakeholders to develop a framework that provides the appropriate incentives for TasWater to improve its service levels for the benefit of customers, while also addressing compliance and other challenges.

8. Attachments

- 8.1. Customer Contract
- 8.2. Connection Policy
- 8.3. Service Charges Policy
- 8.4. Water Sub-metering Policy
- 8.5. Service Extension and Expansion Policy
- 8.6. Service Introduction Charges Policy
- 8.7. Developer Charges Policy
- 8.8. Trade Waste Charges Policy
- 8.9. Complaints, Disputes and Enquiries Management Policy
- 8.10. Financial Hardship Policy
- 8.11. Schedule of Fees and Charges
- 8.12. Schedule of ET rates for different industries/properties use types
- 8.13. Example service replacement contract
- 8.14. Serviced Land maps

