

Guidance – Western Water’s 2018 water price review

29 January 2018



An appropriate citation for this paper is:

Essential Services Commission 2018, *Guidance – Western Water’s 2018 water price review*, January

Copyright notice

© Essential Services Commission 2018



This work, *Guidance – Western Water’s 2018 water price review*, is licensed under a Creative Commons Attribution 4.0 licence [creativecommons.org/licenses/by/4.0]. You are free to re-use the work under that licence, on the condition that you credit the Essential Services Commission as author, indicate if changes were made and comply with the other licence terms.

The licence does not apply to any brand logo, images or photographs within the publication.

Contents

1. Introduction	1
2. The commission's approach to the price review	5
2.1. The manner in which we propose to regulate Western Water's prices	5
2.2. Approach and methodology for assessing Western Water's price submission	6
2.3. Consultation by the commission	7
2.4. Process and timeline	8
3. Required contents of Western Water's price submission	9
3.1. Managing risk	9
3.2. Regulatory period	11
3.3. Customer engagement	11
3.4. Outcomes	11
3.5. Guaranteed service levels	14
3.6. Revenue requirement	15
3.7. Forecast operating expenditure	16
3.8. Forecast capital expenditure	19
3.9. Return on the regulatory asset base	23
3.10. Forecast regulatory asset base	23
3.11. Tax allowance	27
3.12. Demand	28
3.13. Form of price control	29
3.14. Prices and tariff structures	29
3.15. Adjusting prices	31
3.16. New customer contributions	33
3.17. Financial position	34
3.18. Additional requirements	35
Appendix A	39
Matters to include in guidance	39
Appendix B	41
Matters to have regard to when making a price determination	41
Appendix C	43
Types of risk	43
Regulatory risk mitigation tools	44

1. Introduction

The Essential Services Commission of Victoria (the commission) is undertaking a review of the maximum prices Western Water can charge for its water and sewerage services for the regulatory period from 1 July 2018.

Our pricing powers and functions in Victoria's water industry are governed by the Water Industry Regulatory Order 2014 (**WIRO**),¹ which sits within the broader context of the *Water Industry Act 1994* (Vic) (**WI Act**) and the *Essential Services Commission Act 2001* (Vic) (**ESC Act**).

We must make a price determination which determines the maximum prices (or the manner in which prices are to be calculated, determined or otherwise regulated) that Western Water may charge for prescribed services during a regulatory period.²

In November 2016 we provided guidance to inform Western Water's price submission.³ We did not receive Western Water's price submission by the due date of 29 September 2017.

In October 2017, Western Water requested we consider alternative arrangements for its price review. It asked us to consider a pricing period of two years to allow the business, including recently appointed board members, time to assess its capacity to address challenges with servicing unprecedented levels of growth in its region, while providing affordable and value adding services to its customers.⁴ It wants to undertake this assessment before committing to longer term prices. Western Water's letter noted that its engagement highlighted the importance of providing bills that are affordable and equitable.

Our response to Western Water noted that we are open to a two year pricing period from 1 July 2018 for the reasons set out in its letter of 20 October 2017, given:⁵

- The unique circumstances facing Western Water in coming years.
- Western Water's advice that current modelling indicates prices would have to increase to a level that may not be affordable in the medium to long term in order to fully respond to the forecast growth in its region.

¹ The WIRO is available at <http://www.gazette.vic.gov.au/gazette/Gazettes2014/GG2014G043.pdf#page=45>, 45-51.

² WIRO, clause 10(a). The prescribed services are listed at clause 7(b) of the WIRO.

³ Essential Services Commission 2016, *2018 Water Price Review, Guidance paper*, November.

⁴ Western Water, Letter, 20 October 2017, available on our website at www.esc.vic.gov.au

⁵ Essential Services Commission, Letter, 8 November 2017, available on our website at www.esc.vic.gov.au

- Our objectives as set out in the *Essential Services Commission Act 2001 (Vic)*, the *Water Industry Act 1994 (Vic)*, and the *Water Industry Regulatory Order 2014*, in particular, the long-term interests of Western Water's customers.
- Western Water's commitment to undertake an assessment of its capacity and resilience to address challenges, before committing to a longer term service, revenue and price path.

Our letter explained that as Western Water's price submission will likely vary from the requirements of our existing guidance, we will issue new guidance to inform its price submission.

We issued draft guidance for consultation on 13 December 2017. We received two submissions on the draft guidance – one from Western Water and one from the Consumer Action Law Centre (CALC).⁶ Western Water supported the draft guidance. CALC indicated that it is pleased that the commission has requested Western Water to submit a proposal under this new guidance. The commission's response to issues raised by CALC can be found at the commission's website.⁷ We have taken these submissions into account in preparing the final guidance.

This is the guidance we must issue Western Water under clause 13 of the WIRO (clause 13 is provided at **Appendix A**). For Western Water, it replaces the guidance we issued in November 2016.

While this guidance is similar to the guidance we issued in November 2016, it has been tailored to reflect a two year regulatory period for Western Water.⁸

To comply with clause 13 of the WIRO, the guidance sets out our approach to the price review and information requirements for Western Water's price submission.

Where possible, we have sought to minimise compliance costs for Western Water.⁹ In considering the information required to support its price submission, much of the information should be readily available and relevant for other purposes such as corporate planning or project justification.

In some areas, the guidance indicates where Western Water should only provide a summary in the price submission, and make supporting detailed information available on our request.

Western Water may, in the interests of brevity, choose not to include all the supporting information for the claims made in its submission. However, it must be able to provide any supporting

⁶ Available at www.esc.vic.gov.au

⁷ <https://www.esc.vic.gov.au/project/water/36640-2018-water-price-review/>

⁸ The November 2016 guidance remains the applicable guidance for the other water corporations it was issued to.

⁹ Under Section 4C (a) of the *Water Industry Act 1994 (Vic)* the Commission has an objective to ensure the costs of regulation do not exceed the benefits, wherever possible.

information we request. For example, Western Water may reference a consultant's report in its submission without providing the full report as an attachment.

Section 13(b) of the WIRO provides for the commission to vary or add to the guidance provided to the relevant regulated entity following consultation, including with the regulated entity.

2. The commission's approach to the price review

This chapter sets out:

- the manner in which we propose to regulate Western Water's prices¹⁰
- our approach and methodology to assessing Western Water's price submission and making a price determination¹¹
- our approach to consultation during the price review process¹²
- timelines for the price review process.¹³

2.1. The manner in which we propose to regulate Western Water's prices

We have flexibility to decide how Western Water's prices are regulated.¹⁴

We will use a building block methodology to determine Western Water's revenue requirement for the two year period from 1 July 2018. The revenue requirement is the forecast amount that a water corporation needs to deliver on customer outcomes, government policy, and regulator obligations, and to earn a reasonable rate of return on its assets.¹⁵

For Western Water's regulatory period from 1 July 2018, the following 'building blocks' will be determined in accordance with governing criteria for each element specified in Chapter 3, to:

- establish forecast operating expenditure
- establish forecast capital expenditure
- roll-forward the regulatory asset base
- apply a rate of return to the regulatory asset base, calculated using:
 - a benchmark cost of debt estimated using a 10-year trailing average approach

¹⁰ WIRO, clause 13(a)(i).

¹¹ WIRO, clause 13(a)(ii).

¹² WIRO, clause 13(a)(iv) and 13(a)(viii).

¹³ WIRO, clause 13(a)(vi) and 13(a)(vii).

¹⁴ This is provided under clause 12(b) of the WIRO and Section 33(5) of the ESC Act.

¹⁵ Regulatory obligations include those specified by Environment Protection Authority Victoria and the Department of Health and Human Services.

The commission's approach to the price review

Essential Services Commission

Guidance – Western Water's 2018 water price review

- a benchmark return on equity value
- establish a return of capital through regulatory depreciation
- establish a benchmark tax allowance.

The form of price control specifies how Western Water's revenue requirement is translated into customer prices. Western Water currently uses a price cap form of price control. We expect Western Water will continue to use a price cap form of price control. The revenue requirement and forecast demand will determine the maximum prices Western Water may charge.

2.2. Approach and methodology for assessing Western Water's price submission

Our regulatory task is to assess Western Water's price submission and form a view about whether or not the price submission:¹⁶

- has adequate regard for the matters specified in clause 11 of the WIRO
- complies with guidance we issue under clause 13 of the WIRO.

Assessing the extent to which the submission has regard for matters specified in clause 11

Clause 11 of the WIRO refers to matters specified in the ESC Act, the WI Act, the guidance we issue under clause 13 of the WIRO, and a number of pricing principles (at clause 11(d)) that we must have regard to in making a price determination.¹⁷

To facilitate our assessment, Western Water is required to support the proposals in its price submission by reference to the matters in clause 11 of the WIRO.

In doing so, Western Water is required to place particular emphasis on the matters in clause 8(b) of the WIRO which primarily relate to the promotion of various types of efficiency.¹⁸ Chapter 3 sets out a number of matters Western Water's price submission must address in order to demonstrate it has fully and meaningfully addressed clause 11 of the WIRO.

¹⁶ WIRO, clause 14(b)(i).

¹⁷ The matters referred to in clause 11 of the WIRO have been grouped into themes in Appendix B.

¹⁸ In summary, clause 8(b) of the WIRO provides that in having regard to the overarching objectives in the ESC Act and the WI Act, particular emphasis is to be placed on:

- (i) the promotion of efficient use of prescribed services by customers;
- (ii) the promotion of efficiency in regulated entities as well as efficiency in, and the financial viability of, the regulated water industry; and
- (iii) the provision to regulated entities of incentives to pursue efficiency improvements.

The commission's approach to the price review

Essential Services Commission

Guidance – Western Water's 2018 water price review

Assessing compliance with this guidance

Western Water must lodge its price submission with the commission by 9 March 2018. We will assess whether Western Water has sufficiently justified its proposals in accordance with the governing criteria in Chapter 3, and satisfied all of the information requirements.

Consequences

Consistent with clause 14 of the WIRO, if we form a view that Western Water's price submission complies with our guidance, and has adequate regard for the matters specified in clause 11 of the WIRO, then we must approve the proposals in its price submission. Otherwise, clause 14 of the WIRO allows us discretion to specify maximum prices, or the manner in which its prices are to be calculated, determined or otherwise regulated.¹⁹

In practice, where Western Water's price submission has not fully complied with the guidance, our intention is to provide Western Water with an opportunity to provide the required information before the commission makes a draft decision.

2.3. Consultation by the commission

We will invite submissions from interested parties on the proposals contained in Western Water's price submission prior to making a draft decision.

Following the release of our draft decision, we will invite submissions and we may hold a public forum before we make a final decision and issue a price determination.²⁰

We will consult with agencies such as the Department of Environment, Land, Water and Planning, the Department of Health and Human Services, and the Environment Protection Authority Victoria.

We will make papers (including the reports of consultants assisting with its review), Western Water's further submissions, and submissions from other interested parties, available at www.esc.gov.au/waterpricereview subject to any confidentiality issues.

If there is information that Western Water or a customer does not want disclosed publicly, because it is confidential or commercially sensitive, the matter should be discussed with commission staff before lodging the submission.

¹⁹ WIRO, clause 14(b)(i).

²⁰ WIRO, clause 16(b).

2.4. Process and timeline

Key steps and indicative dates for Western Water's price review are set out below:²¹

- Western Water lodges its price submission – 9 March 2018
- We issue a draft decision for consultation – 27 April 2018
- Our consultation on the draft decision closes – 28 May 2018
- Commission issues final decision and price determination – 19 June 2018

²¹ Clause 13(vi) of the WIRO requires the commission to provide guidance on the timing and processes it proposes to follow in making a price determination. Clause 13(vii) also requires the Commission to specify the date by which the water businesses are to deliver their price submissions to the Commission.

The commission's approach to the price review

Essential Services Commission

Guidance – Western Water's 2018 water price review

3. Required contents of Western Water's price submission

Pursuant to clause 13(a)(iii) and 13(a)(v) of the WIRO, this chapter sets out the governing criteria and supporting information requirements for the major components of Western Water's price submission, covering the regulatory period commencing 1 July 2018 (the **next regulatory period**).

Western Water should prepare its price submission with the commission as its target audience. Although the price submission will be released publicly, the content and language should be tailored to facilitate our review. Western Water may consider other ways – such as fact sheets – to communicate its proposals to other stakeholders, including its customers.

The information requirements specified in this chapter reflect the information we need to undertake Western Water's price review consistent with the WIRO. Much of the detail required by our guidance can be provided by completing the financial model (issued by the commission) that forms part of the price submission (see Section 3.18.3).

3.1. Managing risk

The WIRO requires us to place particular emphasis on matters relating to various efficiencies in undertaking our regulatory functions in Victoria's water sector.²²

Efficiency is promoted when risk is adequately identified, quantified, allocated, and where appropriate, managed by a water corporation. Prices should reflect the costs incurred in delivering services, incorporating reasonable assumptions about risk. Appendix C summarises some of the major risks facing a water corporation, and potential approaches to dealing with risk.

Western Water's price submission must be informed by a robust risk identification process. It must demonstrate that it has allocated risk appropriately, and where it is best placed to do so, specify the mechanisms it will use to manage risk.

Appendix C summarises some of the major risks facing a water business, and potential approaches that Western Water may propose to deal with risk.

In the expenditure sections of Chapter 3, we have specified where we require information on Western Water's consideration of risk to support Western Water's proposals.

²² WIRO, Section 8(b).

However, we are also seeking evidence that Western Water has given strategic consideration to risk, and identified risks that may have a material impact on the prices customers pay, or the services they receive, taking into account a long-term planning horizon.

This is the focus of the information requirements in Section 3.1.1.

3.1.1. Supporting information

In its price submission Western Water must:

- identify any significant risks that may impact on customer prices or services, and if requested, make available to us scenario analysis for each risk including an assessment of the nature and scale of the risk and its probability of occurring
- identify how it has addressed significant risks through its proposals, explain how the corporation considered the allocation of risk, and demonstrate how its proposals support efficiency
- provide evidence that the corporation has given strategic consideration to the allocation and management of risk in developing its price submission — this may involve providing references and making available to us material on the corporation’s risk identification and management framework or processes, rather than including detail in its price submission.

Upon request, Western Water must also make available to us the following information about significant risks it proposes to manage that require cost allowances:

- the categorisation of the risk (as operational or financial risk, for example)
- measurement of the risk including:
 - the nature and scale of the risk
 - the probability of the risk event occurring
 - factors influencing the probability of the risk event occurring
 - the financial or service impact of the risk if it occurs
- options considered for allocating the risk
- rationale for the allocation of the risk, given alternative options
- an explanation of why the regulatory risk mitigation tools listed in Appendix D do not adequately mitigate the risk
- the role customers will be expected to play in dealing with these risks and how customers will be engaged in this process.

3.2. Regulatory period

We must set the term of the regulatory period for which prices will apply.²³ The term for Western Water's regulatory period is from 1 July 2018 to 30 June 2020.

3.3. Customer engagement

The WIRO requires us to set out our expectations regarding customer consultation by Western Water in developing its price submission.²⁴

In its letter to us on 20 October 2017, Western Water noted it had undertaken deep and thorough engagement with its stakeholders (including customers) for over a year.²⁵

Western Water's request for a two year regulatory period was informed by feedback from customers that they valued affordable and equitable bills.

We do not require Western Water to undertake further customer consultation before it lodges its price submission. However, its submission must outline the key findings from the engagement undertaken so far, and describe how engagement findings have influenced its proposals.

Western Water must make available, or provide on request, resources and materials provided to customers during its engagement undertaken so far, and any customer feedback about the engagement program.

3.4. Outcomes

Western Water must propose outcomes that its customers will receive during the next regulatory period. It must define measurable outputs and deliverables, and associated targets that will be monitored to demonstrate the achievement of each outcome.

Western Water's submission must outline a process by which it will report at least annually to its customers on its performance against the specific outputs and deliverables for each outcome.

3.4.1. Criteria

Proposed outcomes must demonstrate linkages to customer preferences, as revealed through Western Water's customer engagement.

²³ WIRO, clause 9.

²⁴ WIRO, clause 13(a)(iv).

²⁵ Western Water, Letter, 20 October 2017, available on our website at www.esc.vic.gov.au

3.4.2. Supporting information

Western Water's price submission must:

- present a set of customer outcomes, each with measurable outputs and deliverables and associated targets
- explain how the outcomes were informed by the corporation's customer engagement program
- specify the key actions, activities and programs that the corporation will undertake to meet its targets (and consequently outcomes)
- demonstrate the connection between the outputs, key actions, activities and programs proposed and achievement of a specified outcome
- present and explain any cost increases or cost savings for operating or capital expenditure that correspond to each outcome (Sections 3.7 and 3.8)
- explain how the cost increases or cost savings are reflected in prices charged to customers
- specify targets for service standards at Section 9.2 of our customer service code for urban water businesses.

An example of how an outcome links to outputs and deliverables, programs and activities, and inputs is provided in Table 3.1.

Table 3.1 Outcome example

Safe clean drinking water for all customers

Outcome What the customer will receive	Safe clean drinking water for all customers
Outputs and deliverables <ul style="list-style-type: none"> • Measures and targets • Key projects • Derived with customers 	<ul style="list-style-type: none"> • Compliance with E. coli and turbidity standards • No boil water notices required • Water quality complaints per 100 customers • Percentage of customers that trust the safety of water supply • Completion of specific water quality related capital projects • Publish annual water quality report
Activities and processes <ul style="list-style-type: none"> • Business programs • Specific actions to be developed/implemented 	<ul style="list-style-type: none"> • Catchment to tap water quality management • Upgrade treatment plant to implement dual barrier protection in accordance with Safe Drinking Water Act 2003 • Water mains cleaning program • Protections to avoid down time at water treatment plants • Hazard Analysis and Critical Control Points (HACCP) certification • Pass water quality regulator's audit (Department of Health and Human Services) • Undertake water quality testing in accordance with regulations • Investigate water quality complaints
Inputs <ul style="list-style-type: none"> • Costs and/or cost movements • Resources required • Price impact 	<ul style="list-style-type: none"> • \$ - opex and capex costs, or cost changes, to deliver or improve the specific programs • Resources • Business unit responsibility

Source: ESC 2016, Water Pricing Framework and Approach, October, p. 20.

3.5. Guaranteed service levels

Western Water must propose guaranteed service levels (**GSLs**) for the regulatory period from 1 July 2018 (**a GSL scheme**). GSLs define Western Water's commitment to deliver a specified service level to individual customers. For each GSL, Western Water commits to a payment or a rebate on bills to those who have received a level of service below the guaranteed level.

3.5.1. Criteria

A GSL scheme will:

- reflect the main service priorities and concerns of customers, informed by Western Water's customer engagement
- provide incentives for Western Water to provide efficient service levels to all customers.

Each GSL must be objectively defined, easily understandable, and able to be reported.

The GSL scheme must include the payment difficulty information disclosure GSL that has been in place since 2010.²⁶ That is, a payment or rebate will be made available to customers if a corporation breached its service level obligation by:

Restricting the water supply of, or taking legal action against, a residential customer prior to taking reasonable endeavours to contact the customer and provide information about help that is available if the customer is experiencing difficulties paying.

3.5.2. Supporting information

Western Water's price submission must specify each GSL and the corresponding payment or rebate amount that will apply where a customer has received a level of service below the guaranteed level. The price submission must identify and justify any changes to the GSL scheme compared with those approved for the current regulatory period.

For any new or amended GSL, Western Water's price submission must:

- explain the basis for the GSL, including how it has been informed by customer engagement
- specify whether benefits to customers will take the form of payments or rebates

²⁶ Previously known as the hardship related GSL, refer to: Essential Services Commission 2012, *Hardship Related Guaranteed Service Level Scheme Review – Final Decision*, May. The latest (3 February 2015) check-list for minimum "reasonable endeavours" at the time of this paper can be found at <http://www.esc.vic.gov.au/water/codes-guidelines/hardship-related-guaranteed-service-level/>

- explain the reasons for the proposed size of the customer payment or rebate that applies to each GSL.

3.6. Revenue requirement

Our decision on Western Water’s revenue requirement for the next regulatory period must meet the WIRO objectives of promoting and providing incentives for efficiency in the regulated entities, as well as efficiency in, and the financial viability of, the regulated water industry.²⁷

3.6.1. Criteria

The required revenue for Western Water will be estimated by the building block approach, under which the building blocks are:

- forecast operating expenditure — determined in accordance with Section 3.7
- forecast capital expenditure — determined in accordance with Section 3.8
- return on the regulatory asset base (RAB) — determined in accordance with the sections below:
 - the ‘roll forward’ of the RAB — determined in accordance with Section 3.10.1
 - the cost of debt — determined in accordance with Section 3.10.4
 - return on equity — determined in accordance with Section 3.10.5
- return of capital through a regulatory depreciation allowance — determined in accordance with Section 3.10.3.
- a benchmark tax allowance — determined in accordance with Section 3.11.

3.6.2. Supporting information

Western Water’s price submission must specify its revenue requirement for each year of the next regulatory period.

The price submission must also provide an estimate of the required revenue for each year after the next regulatory period to 2022-23. It must provide a brief explanation of the trend in the forecast in the period from 2013-14 (the first year of its current regulatory period) to 2022-23.

²⁷ WIRO, Section 8(b).

3.7. Forecast operating expenditure

3.7.1. Criteria

The forecast operating expenditure to be included for the purposes of calculating the revenue requirement is operating expenditure which would be incurred by a prudent service provider acting efficiently to achieve the lowest cost of delivering on service outcomes over the regulatory period, taking into account a long-term planning horizon (prudent and efficient forecast operating expenditure).

We consider that a prudent and efficient operating expenditure forecast has the following characteristics:

- baseline year expenditure is reflective of efficient operating costs and is used as a basis to forecast expenditure
- forecast operating expenditure incorporates expectations for a reasonable rate of improvement in cost efficiency
- expenditure requirements above the baseline year (adjusted for growth and efficiency improvements) are fully explained and justified.

3.7.2. Supporting information

Western Water's price submission must include a forecast of total prudent and efficient operating expenditure for each year of the next regulatory period. Forecast operating expenditure is to be presented separately for each major service category.²⁸

For total and annual forecast operating expenditure and for each major service category, forecast operating expenditure for each year of the next regulatory period, and beyond to 2022-23, must be further broken down where relevant, in the financial model for:

- operations and maintenance
- bulk charges
- treatment
- customer service and billing
- GSL payments
- licence fees
- corporate costs
- other operating expenditure.

²⁸ For Western Water, the major service categories include water, sewerage, recycled water, and bulk water.

Forecasts for the environmental contribution must also be provided in the financial model.

Western Water must also provide actual operating expenditure for the current regulatory period (using forecasts for 2017-18), categorised in the same way as above, in the financial model.

Forecast operating expenditure must be presented relative to a reference or baseline operating year (Box 3.1), with allowance for customer growth and cost efficiency improvements over the next period. Any significant changes in the forecast years' costs relative to this baseline year must be clearly presented and explained, including how they are reflected in the proposed customer outcomes and how they represent improved customer value (Section 3.4).

Our financial model sets out the forecast operating costs consistent with this approach.

Box 3.1 Baseline controllable operating expenditure

In preparing forecast operating expenditure, Western Water's price submission must establish a baseline controllable operating expenditure which comprises efficient recurring controllable costs from the last full year of actual data (2016-17) for those activities and services that are expected to be incurred throughout the next regulatory period.

The baseline is established from the actual prescribed operating expenditure for 2016-17, adjusted as follows:

- remove any non-controllable expenditure²⁹
- remove any one-off or non-recurring expenditure items incurred in that year, or add any normally occurring items that did not occur in that year
- remove any further ongoing cost savings or efficiency commitments that will be realised in the final year of the current regulatory period (2017-18), for example commitments made by Western Water following its efficiency review in 2014.³⁰

Western Water's price submission must justify the adjustments proposed to the baseline year in order to establish the baseline controllable operating expenditure, and demonstrate that this

²⁹ Controllable costs are those that can be directly or indirectly influenced by a water business's operational decisions. Examples of non-controllable costs include: bulk water costs (where prices are set by the Commission), regulatory licence fees, and the environmental contribution.

³⁰ All Victorian water businesses undertook an efficiency review in 2014 as part of Fairer Water Bills.

represents efficient ongoing operating costs (consistent with any efficiency targets for the current regulatory period³¹).

Using the 2016-17 baseline controllable operating expenditure, Western Water must propose and justify:

- its forecast customer growth rate assumptions (for each year)³²
- its annual cost efficiency improvement rate (for each year)
- how proposed cost changes deliver improved customer value.

Its price submission must also:

- demonstrate how proposed cost changes relate to the proposed customer outcomes and the associated outputs and deliverables (Section 3.4), and in particular:
 - identify and explain operating expenditure savings or new operating expenditure arising from capital expenditure and projects
 - explain any trend or major annual variations in forecast operating expenditure (including identifying cost items that are having an upward or downward influence on operating expenditure) compared with historic operating expenditure³³
- demonstrate that proposed costs associated with new or revised regulatory obligations and policy requirements are prudent and efficient
- set out and where relevant justify the non-controllable cost forecasts including:
 - bulk water purchases from other water corporations
 - regulatory licence fees
 - environmental contribution
 - any other proposed non-controllable costs.

³¹ The Commission required businesses achieve a 1 per cent per year efficiency improvement on their controllable operating expenditure over the 2013–18 regulatory period.

³² Western Water should draw on Victoria in Future forecasts, Australian Bureau of Statistics data, and other information as required.

³³ Including, but not limited to, assumptions and trends relating to:

- wage and salary escalations, total labour costs and employee number assumptions
- electricity and energy costs, and underlying volume and load assumptions
- information technology costs.

The price submission should explain Western Water's approach to allocating shared costs, or reference documentation that may be requested by the commission to verify its approach.

3.8. Forecast capital expenditure

Capital expenditure forecasting essentially involves anticipating the scope, timing and costs for a large number of various sized projects, ranging from the replacement of existing assets at the end of their lives to the construction of major new assets and facilities.

In preparing capital forecasts, Western Water should avoid including speculative capital expenditure in its price submission forecasts. Where capital projects are not fully scoped, costed or internally approved (via an approved business case, for example) at the time of preparing the price submission, Western Water should consider the following options so that customers are not asked to bear the full cost should the project scope or timing change:

1. Include sufficient expenditure to cover only the development costs of the project, with efficient actual construction costs incurred during the period to be rolled into the RAB at the end of the period, along with any accumulated interest. This provides sufficient revenue allowance for the project to proceed during the next regulatory period, with cost recovery to commence in the following regulatory period at no net loss to the business.
2. Include development costs and a notional allowance for construction, with the balance of efficient construction costs (plus associated interest if required) to be rolled into the RAB at the end of the period. This allows a reasonable portion of the project, based on the various options and cost estimates at the time of preparing the price submission, to be included in prices.
3. Identify the project as a possible 'uncertain and unforeseen event' to be addressed via the mechanisms outlined in Section 3.15 during the regulatory period.

3.8.1. Criteria

The forecast capital expenditure to be included for the purposes of determining the required revenue is capital expenditure that would be incurred by a prudent service provider acting efficiently to achieve the lowest cost of delivering service outcomes, taking into account a long-term planning horizon (prudent and efficient forecast capital expenditure).

We consider that prudent and efficient capital expenditure has the following characteristics which reduce the risk borne by customers:

- required expenditure is based on a P50 estimate, in which there is an equal likelihood of project costs being higher or lower than forecast (noting a P50 estimate may not be appropriate if Western Water's proposed capital program is dominated by one or two major projects)
- contingency allowances are optimised

Required contents of Western Water's price submission

Essential Services Commission

Guidance – Western Water's 2018 water price review

- forecast capital expenditure for renewals incorporates expectations for a reasonable rate of improvement in cost efficiency
- risks of project delays and cost overruns are managed through contractual agreements with service providers.

Where actual construction costs are found to exceed their efficient level, the commission will not roll these inefficient expenditures into the regulatory asset base. Inefficient costs will be worn by Western Water and will not be recovered from customers.

3.8.2. Supporting information

Western Water’s price submission must include a forecast of total prudent and efficient capital expenditure for the next regulatory period, including forecast capital expenditure for each year of the next regulatory period, and beyond to 2022-23.

Forecast capital expenditure is to be presented by major service category³⁴ and by the following cost drivers:

- forecast capital expenditure to maintain service standards — that is, renewals
- forecast capital expenditure to expand or improve services — that is, growth and improvements/compliance (improvements or upgrades to existing services or to comply with existing or changed government or regulator obligations).

Western Water’s financial model must also specify actual capital expenditure for the current regulatory period (including a forecast for 2017-18), categorised in the same way as above.

Capital expenditure will fall into one of three key types:

- Major capital projects — large, discrete capital investment projects (may be completed within a regulatory period, or may span more than one period)
- Capital programs — ongoing programs of capital expenditure allocation, containing multiple works or projects (for example; water main renewals, sewer odour management, ICT equipment upgrades, etc.)
- Other capital expenditure — typically smaller discrete projects and programs.

The price submission must present the capital expenditure forecasts set out according to these three key types, as follows:

³⁴ Depending on the business, the major service categories may include water, sewerage, recycled water, bulk water, rural water, irrigation, drainage, domestic and stock, and diversions.

Major capital projects — comprising the ‘top 5’ discrete capital projects, by total capital cost, to be started or completed during the next regulatory period. Western Water may also include significant discrete projects that fall outside the top 5 by cost but are scheduled for 2018–23. For each of these major projects, provide:

- the project name and scope, cost driver and relevant major service and asset category
- justification for the project, including the cost driver
- start and completion dates
- total capital cost (itemising any government or customer contributions), and expenditure by year
- objectives of the project, including how the project aligns with the various customer outcomes proposed (Section 3.4)
- and have available:
 - a business case outlining the options considered for achieving the identified objectives and the approach to identifying the optimal solution³⁵
 - risk analysis of the selected option and plans to mitigate the identified risks to ensure the project can be delivered on budget and on time
 - the incentive and penalty payment arrangements with contractors³⁶
 - information to identify whether the project has (or will be) the subject of competitive tendering.

Capital programs — all key capital expenditure programs or allocations that will be ongoing throughout the regulatory period (excluding any discrete projects separately specified in the ‘top 5’ above). For each program, provide:

- the program (or cost allocation) name, and relevant major service category
- the cost driver
- total capital cost (itemising any contributions), and expenditure by year
- objectives of the program, including how the program aligns with the various customer outcomes proposed (Section 3.4)
- historical annual costs, and an explanation for significant increases or decreases in the forecast average annual expenditure
- and have available:

³⁵ This should also include an assessment of a ‘do nothing’ option. Cost comparisons of various options should consider P5, P50 and P95 estimates. Forecasts for capital expenditure must be based on the P50 estimate.

³⁶ A business’s proposed prices must reflect incentive and penalty payment arrangements that are based on a symmetrical sharing of risk for delivery or non-delivery of projects.

- the list of projects included within the program or cost allocation for the next regulatory period, and business cases and options analyses
- a description of the methodology for assessing risk and prioritising projects within the program
- the cost estimation basis.

Other capital expenditure — all other capital expenditure not associated with a defined major project or major capital program should be grouped into one or more programs as appropriate, to be included under the capital programs list, as above.

Consistent with the above capital expenditure breakdowns (by type and major service category) in the price submission or financial model where appropriate, Western Water must also:

- for each year of the next regulatory period, and beyond to 2022-23, provide annual forecasts for capital expenditure separately identifying (where appropriate) and reconciling:
 - total capital expenditure
 - contributions (government and customer)
 - gifted assets
 - proceeds from asset sales
 - written down value of assets disposed
 - net capital expenditure.
- explain the methodology used to estimate forecast capital expenditure
- identify and explain the key assumptions which underpin the capital expenditure forecasts by each major service category, and how any risks or uncertainties have been addressed – including its compliance with risk standards specified in the Statement of Obligations (e.g. ISO 55001).
- justify the timeframe for delivering the proposed new capital expenditure given the corporation's delivery of major projects in the past
- explain the reasons for the trend or any major annual variations in forecast capital expenditure (including identifying cost items that are having an upward or downward influence on capital expenditure), compared with historic capital expenditure
- justify the total forecast capital expenditure against the criteria in Section 3.8.1, taking into account:
 - forecast demand
 - any relevant industry or economy-wide benchmarks of expenditure
 - the substitution possibilities between forecast operating expenditure and forecast capital expenditure.

The commission's financial model sets out the forecast capital expenditure consistent with the breakdowns and methodology described above.

3.9. Return on the regulatory asset base

A regulatory rate of return is applied to the regulatory asset base (RAB) to calculate the annual return on the RAB to be included in the revenue requirement. The regulatory rate of return comprises two components: a return on equity and a cost of debt.

The benchmark cost of debt will be determined based on a trailing average approach. A benchmark gearing level of 60:40 debt to equity will apply.

The formula for the regulatory rate of return is therefore:

$$\text{Regulatory rate of return} = \text{Re } 0.4 + \text{Rd } 0.6$$

Where:

Re = rate of return on equity

Rd = rate for the cost of debt.

The benchmark regulatory rate of return must be calculated in nominal terms, and then converted to real terms.³⁷

3.10. Forecast regulatory asset base

3.10.1. Criteria

The RAB calculated for the purposes of determining the revenue requirement must reflect capital expenditure (less regulatory depreciation, contributions and/or asset disposals) which would be incurred by a prudent service provider acting efficiently to achieve the lowest cost of delivering on service outcomes, taking into account a long-term planning horizon (**prudence criteria**).

The opening RAB must be calculated as follows:

$$\begin{aligned} \text{Opening RAB 1 July 2018} &= \text{RAB at 1 July 2013} \text{ (adjusted to reflect 2012-13 actual)} \\ &+ \text{Actual capital expenditure (gross)} \text{ }_{2013-14 \text{ to } 2016-17} \\ &+ \text{Forecast capital expenditure (gross)} \text{ }_{2017-18^*} \end{aligned}$$

³⁷ The Fisher equation will be used to convert from nominal to real estimates; that is:

$$(1 + \text{nominal rate}) = (1 + \text{real rate}) * (1 + \text{inflation rate}).$$

The Commission will use a market based inflation estimate (based on the Australian Bureau of Statistics Consumer Price Index – weighted average of eight capital cities, all groups) and specify the applicable inflation rate in the financial model.

- Actual contributions 2013-14 to 2016-17
- Forecast contributions 2017-18**
- Forecast regulatory depreciation 2013-14 to 2017-18*
- Proceeds from disposal of assets 2013-14 to 2016-17
- Forecast proceeds from disposal of assets 2017-18**

(*denotes the forecast used in the 2013 price determination)

(** denotes the latest available forecast for 2017-18)

Where the up-to-date 2017-18 gross capital expenditure forecast is lower than the forecast benchmark for that year in the 2013 price determination, then Western Water must use the lower amount.

The same approach must be used to determine the opening value on 1 July for each subsequent year in the next regulatory period, using the forecasts for capital expenditure, customer and government contributions, regulatory depreciation and asset disposals.

In addition, the opening RAB (at 1 July 2013) must be adjusted for inflation (based on the Consumer Price Index – all Groups, Australia) over the current regulatory period.

3.10.2. Supporting information

Western Water's price submission must propose:

- the closing value for the RAB at 30 June 2017 (using actual data)
- the opening value of the RAB at 1 July 2018 (calculated according to the criteria above)
- the forecast value of the RAB for each year of the next regulatory period, in accordance with the prudence criteria set out above
- the forecast value of the RAB for each year after the next regulatory period until 2022-23.

Western Water's price submission must also:

- provide estimates for regulatory depreciation (Section 3.10.3)
- provide separate data and justify estimates for:
 - government contributions — federal, state and local government contributions towards the capital cost of a project
 - customer contributions — upfront cash payments made by new customers
 - the value of gifted assets — assets constructed and then handed over to Western Water to operate and maintain

Required contents of Western Water's price submission

Essential Services Commission

Guidance – Western Water's 2018 water price review

- include estimates of revenue expected from disposal of assets for each year from 1 July 2018, to be deducted from the roll forward of the RAB.

To assist with our review, we may seek further information on Western Water’s justification for capital expenditure in the period from 2012-13 to 2016-17. We may also request a reconciliation of actual net capital expenditure against the benchmarks allowed in Western Water’s 2013 price determination.

3.10.3. Regulatory depreciation

We recognise a return of capital expenditure (regulatory depreciation) for an asset when the asset enters service. We prefer a straight line depreciation profile.

Western Water’s estimates and profiles for regulatory depreciation should reflect reasonable assumptions about asset life and utilisation.

Western Water can propose an alternative approach to straight line depreciation having regard to the following assessment principles:

- the depreciation rate should account for technological change, projected future demand and any other factors that may affect the value of the assets in the future
- the technical lives of assets
- impact on prices over the long-term.

3.10.4. Cost of debt

We will use a 10 year trailing average approach to estimate the benchmark cost of debt. The trailing average approach will determine the whole cost of debt (risk free rate and debt risk premium). The averaging period will be the 10 years preceding the year in which the rate applies.

Each year, the 10 year trailing average cost of debt will be updated by rolling forward the data series by one year, such that:

- the cost of debt for the roll-forward (previous) year reflects the yields of the RBA 10 year BBB rated corporate bond – Reserve Bank of Australia Table F3 series FNFYBBB10M
- the annual update is a simple average of 12 months of the RBA 10 year BBB rated corporate bond over 1 April to 31 March
- the trailing average is a simple average of 10 years of cost of debt
- the cost of debt is calculated in nominal terms.

The historical data series for the cost of debt calculated using the method described above is set out in Table 3.2.

Table 3.2 Historical cost of debt

Nominal

	2008-09	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18
Cost of debt	6.9%	7.4%	7.0%	6.3%	5.3%	7.1%	5.4%	5.3%	4.9%	4.9% ^a

^a The cost of debt for 2017-18 will be updated to reflect annual averages based on actual data, prior to the final decision.

Data source: Treasury Corporation Victoria and the Essential Services Commission.

Western Water is not required to submit information on the cost of debt in its price submission, as the cost of debt will be determined on the basis of the external data outlined above. However, Western Water must use the values above to estimate its revenue requirement and prices, subject to any updates before we make a price determination.

The cost of debt specified in a price determination for each year of the next regulatory period will be the rate calculated for the ten years up to and including 2017-18. During the next regulatory period, the cost of debt will be updated annually as outlined above. In Section 3.15, the guidance notes that Western Water must propose an annual adjustment mechanism to allow prices to adjust due to changes in the cost of debt.

3.10.5. Return on equity

We will set Western Water's return on equity at 4.5 per cent per annum (in real terms, after tax). This level is similar to the rate allowed for Western Water at its most recent price review (2013), and reflects the rate of return a 'Standard' business would receive under the PREMO incentive mechanism³⁸. It is also similar to the rate set in recent regulatory decisions for the water sector.³⁹ Western Water is not required to self-assess and give itself a PREMO rating.

³⁸ Under the PREMO incentive mechanism, return on equity is linked to a water corporation's level of ambition – 'Leading', 'Advanced', 'Standard' or 'Basic'. However, this mechanism does not apply to Western Water in this instance. More information on the PREMO mechanism is available in Essential Services Commission 2016, *2018 Water Price Review, Guidance paper*, November.

³⁹ See for example Essential Services Commission 2016a, *Melbourne Water Price Review 2016 — final decision*. The return on equity was calculated at 4.6 per cent, using the Capital Asset Pricing Model (CAPM).

3.11. Tax allowance

3.11.1. Criteria

The tax allowance included for the purposes of determining the required revenue must reflect an estimate of the corporate income tax to be paid, less the imputation credits that would be received by a hypothetical private investor in Western Water. In estimating the value of imputation credits Western Water must multiply the annual estimated corporate income tax bill by an imputation factor. This is consistent with the income tax calculation in the financial model.

3.11.2. Calculating the Tax allowance

Once populated by Western Water, the financial model will include an estimate of the corporation's future nominal tax allowance based on the following formula:

$ETC_t = (ETI_t \times r_t) (1 - \gamma)$, where:

- ETC_t is an estimate of the future nominal tax allowance
- ETI_t is an estimate of the taxable income for each regulatory year
- r_t is the expected statutory income tax rate for each regulatory year
- γ is the value of imputation credits (which will be at the rate of \$0.50 for every \$1 of company tax paid, as in past price reviews).

In relation to the estimate of ETI_t for each year of the next regulatory period:

- the revenue and expenditure estimates used in the calculation are the same revenue and expenditure estimates used to establish maximum prices (except that customer contributions and gifted assets are treated as revenue)
- the interest expenses (deductions) reflect the nominal cost of debt and the assumed stock of debt (that is, gearing multiplied by the regulatory asset base)⁴⁰
- the calculation allows for an adjustment to reflect tax depreciation.

The financial model provides an adjustment to the nominal tax allowance for inflation, in order to derive the real tax allowance for each regulatory year. This estimate must be used by Western Water as the basis for its tax allowance forecasts. The forecast tax allowance may also be informed by the corporation's latest estimate of tax to be paid over the next regulatory period.

⁴⁰ The nominal cost of debt will be calculated using a 10 year trailing average (Section 3.10.4). The tax allowance will be kept constant for the regulatory period consistent with the values in the price determination and will not vary with the cost of debt.

3.11.3. Supporting information

Western Water's price submission must propose a total tax allowance for each year of the next regulatory period. The price submission must also:

- state the basis on which the tax allowance for the next regulatory period has been calculated
- in the financial model, provide an estimate of the income tax for each year after the next regulatory period up until at least 2022-23
- provide the corporation's latest corporate forecasts for annual tax payments for the next regulatory period, and make available to the commission the basis for the forecasts.

3.12. Demand

3.12.1. Criteria

Demand forecasts proposed by Western Water must represent the best available estimates derived from an appropriate forecasting methodology. Assumptions on the key drivers of demand over the next regulatory period must be well explained and reasonable.

3.12.2. Supporting information

Western Water's price submission must summarise its demand forecasts, including expected trends for the next regulatory period, as well as outline the key assumptions adopted to develop those forecasts. It should use a five year horizon for demand forecasting and scenario work, and reflect this in its price submission.

Western Water's price submission must also include:

- a description of the key demand forecasting issues that lists and justifies the most important assumptions adopted in generating the forecasts — demand forecasts should be based on the latest Victoria In Future forecasts issued by the Victorian Government
- a description of the forecasting methodology used, and the justification for using the methodology
- reference to any external reports or information relied upon
- a description of how forecasts have accounted for the impact of any proposed changes to tariff structures or form of price control expected in the next regulatory period
- details on the levels of restrictions or nature of any permanent water conservation measures reflected in the forecast
- written information on where price elasticity was applied, the input assumptions used, and how the assumptions were translated into the corporation's demand forecasts
- an explanation of how demand forecasts are consistent with proposed expenditure (in terms of the level and nature of expenditure).

Required contents of Western Water's price submission

Essential Services Commission

Guidance – Western Water's 2018 water price review

Western Water must also make available evidence that a range of supply and demand scenarios were modelled, including low, normal and high water inflow scenarios, and written justification for the selection of the modelled scenario.

The financial model will require Western Water to provide detailed demand forecasts for every tariff and tariff category, by residential and non-residential customers. If detailed forecasts at this level are unavailable, Western Water must explain why and provide estimated demand for these services. The detail in the model does not need to be reproduced in the price submission.

3.13. Form of price control

Western Water's tariffs are currently covered by a price cap form of price control. This means it can charge its customers up to the maximum price approved in a determination issued by the commission.

We expect Western Water to continue with its existing form of price control, given its commitment to undertake a business review within the next two years. Any changes to the form of price control should be considered after it undertakes its review.

Western Water's price submission must state how its form of price control considers the objectives and matters covered by clause 11 of the WIRO.

3.14. Prices and tariff structures

Like the form of price control, we expect Western Water will propose to continue with its current tariff structures, given its plan to undertake a business review. Any changes to tariff structures should be considered after it undertakes its review.

Western Water's price submission must list each of its proposed tariffs to apply in the next regulatory period and include:

- each element of a multi-part tariff structure
- a price for each tariff
- where relevant, the pricing principles that it proposes to apply in setting prices.

Prices for some services such as specialised trade waste, recycled water, and miscellaneous services can be set with reference to pricing principles. The pricing principles we propose to approve for Western Water are listed in our framework and approach paper.⁴¹

⁴¹ Essential Services Commission 2016b, *Water Pricing Framework and Approach: Implementing PREMO from 2018*, October, pp. 37–9.

There may be instances where tariffs are proposed that relate to a very small proportion of revenue or are applicable to very few customers (for example, for some rural tariffs). In these cases, Western Water may propose specific pricing principles.

In terms of prices, we note Western Water's intention (as set out in its letter to us on 20 October 2017) for prices to be held at current levels with an allowance for inflation from 1 July 2018 to 30 June 2020.

In making a price determination, our legal framework requires us to have regard to a number of factors including efficiency, and the objective to promote the long term interests of Victorian consumers. Given these factors, it is possible that our review may approve prices that are higher or lower than Western Water's intention to hold prices constant in real terms from 1 July 2018.

Western Water may choose to charge lower than the maximum specified in our determination. In such circumstances, Western Water would not be allowed to recover the difference in revenue from its customers in the future.

3.14.1. Supporting information

Western Water's price submission must:

- Include a tariff schedule listing each tariff and the price (or principles) proposed, including each element of a multi-part tariff structure.
- Justify its proposed prices having regard to the matters covered by clause 11 of the WIRO.
- For any changes in tariff structures and principles, or new tariffs:
 - state how each tariff is to be applied – for example, frequency of charging, customer class, applying prices through connection or meter size
 - describe the relationship between the proposed price for a service and the associated short run or long run marginal cost
 - provide data and supporting information that describes how proposed tariffs are consistent with providing signals about the efficient cost of delivering services⁴²
 - justify how the proposed change delivers better signals to customers about the efficient costs of service provision
 - describe how the corporation considered risk and its allocation and management
 - provide a summary of the corporation's approach to consultation and how the views of customers informed the price submission.

⁴² The commission requires the price submission to propose prices that seek to reduce and minimise cross-subsidies. The extent to which this may be achieved will depend on a range of factors, including how well any adverse customer impacts may be managed. These issues will need to be explored in the price submission.

- For price changes of more than 10 per cent for any tariff in any year for the next regulatory period:⁴³
 - describe the relationship between the cost of service provision and the proposed price
 - provide a summary of the corporation’s approach to consultation (including the approach to identifying affected customers)
 - summarise the customer feedback received on the proposed price increase
 - describe the transition arrangements considered, and ultimately proposed, for affected customers.
- Provide estimated tariffs for each service for each year beyond the next regulatory period up until 2022-23, in the financial model.

3.15. Adjusting prices

Western Water’s price submission must specify any proposed price adjustment mechanisms to apply in the next regulatory period. Its 2013 price determination includes mechanisms that allow for prices to adjust in order to take into account:

- uncertain and unforeseen events
- differences between forecast and actual desalination costs (covering desalination security payments and the cost of any water ordered)
- a ‘pass through’ of changes in some costs (such as taxes) during the regulatory period.

Our view is that these adjustment mechanisms have worked well, and we propose these arrangements will continue for Western Water.

The proposed price control formulas must continue to include a mechanism to allow for price adjustments to occur on an annual basis, such as changes in bulk charges. As part of the transition to a ‘trailing average’ approach to estimating the cost of debt (as outlined in Section 3.9), Western Water must also propose a price adjustment mechanism (including price control formulas) that allows for prices to adjust on an annual basis to reflect movements in the cost of debt.

Where Western Water proposes to continue with the existing adjustment mechanisms, the supporting information requirements will be easily satisfied.

⁴³ Clause 11(d)(ii) of the WIRO requires the commission to have regard to the principle that prices should provide signals about efficient costs of providing services, while avoiding ‘price shocks’ where possible. For the purposes of the 2018 price review, the commission has defined a price shock as an increase of greater than 10 per cent in any year for any individual tariff. This is consistent with the commission’s approach to rural tariffs and Melbourne Water’s tariffs. For any proposed price increases of greater than 10 per cent in any year, it will consider the merits of the increase while having regard to the cost of delivering the particular service (that is, cost reflectivity) and the impacts on customers.

Where a change is proposed, however, Western Water will need to provide evidence to demonstrate how the new adjustment mechanism satisfies the requirements in clause 11 of the WIRO.

We will consider proposals addressing other events that may require a pass-through to adjust prices during the regulatory period, provided a clearly articulated justification is included in the submission. Where there is a potential policy or regulatory change that is known but uncertain in its impact on Western Water's costs, the change may be nominated in its price submission as a potential pass-through, or uncertain or unforeseen event. Capital projects which are anticipated, but have not been fully scoped or costed (as described in Section 3.8) may be nominated as an uncertain and unforeseen event.

3.15.1. Criteria

In approving proposed pass-through or uncertain or unforeseen events, we will consider:

- the extent to which the event is outside Western Water's control and poses significant risk of cost changes during the period
- the extent to which the nominated event is uncertain in its impacts and timing
- whether it is reasonable that customers should bear risk associated with the nominated event
- the impact of the nominated event on efficiency incentives for Western Water
- the ability for Western Water to otherwise manage the risk posed by the event – for example, in its form of price control, tariff structures or approach to contracting.

3.15.2. Supporting information

Western Water's price submission must:

- specify any proposed price adjustment mechanisms to apply in the next regulatory period, and specify the proposed process and/or formula for adjusting prices
- if proposing new or changed price adjustment mechanisms, then the price submission must:
 - clearly specify and explain how the adjustments would work
 - demonstrate Western Water has sought to appropriately balance revenue and cost risk between the corporation and its customers, without materially impacting on price stability
 - justify any proposal against relevant matters in clause 11 of the WIRO and consistency with proposed outcomes.

For any identified pass-through or uncertain and unforeseen events, the price submission must also:

- describe each proposed event, and explain why it is uncertain in its timing or impacts on Western Water or its customers
- explain why it is appropriate that customers should bear risk associated with the event

Required contents of Western Water's price submission

Essential Services Commission

Guidance – Western Water's 2018 water price review

- explain how Western Water considered the impacts on its incentives to pursue efficiencies
- propose a price adjustment mechanism to implement the pass-through.

3.16. New customer contributions

New Customer Contributions (NCC) are a prescribed service for urban water businesses (also known as developer charges). We introduced a principles-based NCC charging framework which came into effect from 1 July 2013. For detailed guidance on NCC, Western Water should continue to refer to our explanatory note, released in December 2013.⁴⁴

3.16.1. Criteria

Western Water must use approved pricing principles (outlined in Box 3.2) to calculate the net incremental cost of connections. NCC will be either standard NCC, which are approved by the commission in our determination, or negotiated NCC, which are agreed between a developer and Western Water.

Box 3.2 NCC pricing principles

Standard and negotiated NCC charges will:

- have regard to the incremental infrastructure and associated costs in one or more of the statutory cost categories attributable to a given connection⁴⁵
- have regard to the incremental future revenues that will be earned from customers at that connection
- be greater than the avoidable cost of that connection and less than the standalone cost of that connection.

3.16.2. Supporting Information

Western Water's price submission must specify the NCC charges proposed to apply, and provide sufficient evidence for us to assess that proposed NCC have been established in accordance with the NCC pricing principles (Box 3.2).

⁴⁴ Essential Services Commission 2013, *New Customer Contributions: Explanatory Note*, December.

⁴⁵ Statutory cost categories means costs for works imposed under Division 6 of Part 13 of the Water Act 1989.

3.17. Financial position

The financial model will calculate estimates for the four financial indicators specified in Table 3.6 for each year to 2022-23. Western Water must populate the financial model to enable our assessment of its financial position in the context of the prices proposed in its price submission.

Western Water must also provide us with the findings of any independent ratings assessments conducted by an independent credit ratings agency since 1 July 2013.

Table 3.6 Financial indicators

Indicator	Calculation	Benchmark Range	Description
Primary indicator — used to determine size of any viability adjustments			
FFO interest cover	$(\text{FFO} + \text{net interest}) / \text{net interest}$	> 1.5 times < 1.8 times used as a caution	Measures the extent of the cash flow buffer Western Water has to meet its debt obligations.
Secondary indicators — used only as contextual information to determine whether an adjustment is necessary			
Net Debt / Regulatory Asset Value (%) (Gearing)	$(\text{Interest bearing liabilities} - \text{cash}) / \text{RAV}$	< 70 per cent	Measures the debt component of the regulatory capital structure.
FFO / Net debt (%)	$\text{FFO} / (\text{Interest bearing liabilities} - \text{cash})$	> 10 per cent	Measures the extent to which the serviceability of debt is improving, remaining stable, or declining.
Internal financing ratio (%)	$(\text{FFO} - \text{dividends}) / \text{net capital expenditure}$	> 35 per cent	Measures the extent to which an entity has cash remaining to finance a prudent portion of capital expenditure after making dividends.

Notes: FFO refers to ‘funds from operations’ and RAV refers to the ‘regulatory asset value’. Regarding FFO interest cover, the commission believes the 1.8 times benchmark signals a need for caution from the corporation and closer observation by the commission in its price reviews and performance reporting. But until a corporation breaches or is forecast to breach the benchmark of 1.5 times, it is unlikely the commission would make a viability adjustment.

3.18. Additional requirements

3.18.1. Executive summary

Western Water's price submission must contain a summary which outlines and brings together the key elements of its proposals. The summary should include:

- an overview of proposed prices
- indicative bill impacts of the proposed prices, by key customer group
- an overview of the outcomes proposed for customers, including how services will change from previous levels
- an attestation from the board on the quality and accuracy of information provided in the price submission.

3.18.2. Board assurance

Western Water's board is required to attest to the quality and accuracy of the information included in its price submission, and that the price submission complies with our guidance in all material respects. This attestation, endorsed by a resolution of the board of directors, must be included in the price submission.

The form of the required assurance is below:

As at [insert date], the directors of Western Water having made such reasonable inquiries of management as we considered necessary (or having satisfied ourselves that we have no query), attest that, to the best of our knowledge, for the purpose of proposing prices for the Essential Services Commission's 2018 Water Price Review:

- information and documentation provided in the price submission and relied upon to support Western Water's price submission is reasonably based, complete and accurate in all material respects;
- financial and demand forecasts are the corporation's best estimates, and supporting information is available to justify the assumptions and methodologies used; and
- the price submission satisfies the requirements of Western Water's Water Price Review Guidance paper issued by the Essential Services Commission in all material respects.

3.18.3. Financial model

Western Water must complete the financial model prepared by the commission to accompany its price submission. Western Water's price submission must be consistent with the data provided in the

financial model.⁴⁶ The financial model will clearly identify the cells for which Western Water must provide data. Western Water must not amend any other cells in the financial model – this includes adding rows, columns, or information not requested by the commission.

The model will include a forecast inflation rate (based on the Consumer Price Index – All Groups, Australia). The inflation rate will be used to estimate components of the regulatory rate of return (see Section 3.9) and estimates for financial indicators (see Section 3.17). We will use the latest market forecasts for inflation.

We intend to release for public comment and consultation the populated financial model that is used to inform the prices approved in the determination for Western Water.

3.18.4. Requirement for reasonably-based information

All information contained in the price submission (and financial model – see Section 3.18.3) must be reasonably-based. All financial and demand related information must represent the best available estimates at the time of finalising the submission.

3.18.5. Basis upon which information is provided

All financial information (including prices, operating and capital expenditure) in Western Water's price submission (and financial model) must be in 2017-18 dollars (with the March quarter 2017 CPI as the base).

All reports, studies or any other materials (for example, research reports, policy documents, and cost benefit analysis or studies) which are relied upon in the price submission must be made available to the commission.

3.18.6. Confidentiality

Our normal practice is to make submissions publicly available on our website. If there is information Western Water does not want disclosed publicly, because it is confidential or commercially sensitive, then it should discuss the matter with commission staff before lodging the price submission.

⁴⁶ The financial model requires the Western Water to provide detailed information on key assumptions underpinning its prices (such as expenditure estimates) so the commission can assess its proposal. The model also provides a mechanism for Western Water to estimate its revenue allowance and prices. The model will require both historic and forecast data.

3.18.7. Notification of changes to assumptions

During the price review, Western Water must promptly advise us if it becomes aware of any substantial changes to the assumptions underpinning the proposals in its price submission. Western Water must also explain the basis for the changed assumptions, and explain the impact on its proposals (if any).

In the event of any changes, Western Water must promptly provide us with an updated financial model, reconciling changes to the financial model provided to the commission with its price submission on 9 March 2018.

3.18.8. Non-prescribed services

While we have no role in regulating prices for non-prescribed services, we need to be satisfied that these services have been correctly classified as not related to regulated services, and that the costs of these services are accurately identified and excluded from the regulated cost base. Western Water's price submission must provide or reference information that demonstrates that the costs of non-prescribed services have been excluded from its expenditure and price calculations.

Appendix A

Matters to include in guidance

WIRO Clause 13(a)

Before making a price determination and following consultation, including with the relevant regulated entity, the Commission must provide guidance to the regulated entity setting out:

- i. the manner in which the Commission proposes to regulate the prices which the regulated entity may charge for prescribed services for the regulatory period consistent with section 33(5) of the ESC Act and this Order;
- ii. the approach and methodology which the Commission proposes to adopt to assess a price submission and make a price determination for the regulatory period consistent with section 33(2) of the ESC Act and this Order;
- iii. the Commission's expectations of the nature and scope of matters to be addressed by the regulated entity in its price submission;
- iv. the Commission's expectations regarding customer consultation by the regulated entity in developing its price submission;
- v. the Commission's expectations of the information required to be provided by the regulated entity to enable the Commission to make a price determination;
- vi. the timing and processes the Commission proposes to follow in making a price determination consistent with section 35 of the ESC Act and the Commission's Charter of Consultation and Regulatory Practice;
- vii. the date by which the regulated entity is to deliver its price submission to the Commission;
and
- viii. any other matter that the Commission considers should be included in the guidance provided to the regulated entity or in the regulated entity's price submission.

Appendix B

Matters to have regard to when making a price determination

Economic efficiency and viability matters	Industry/business specific matters	Customer matters
<ul style="list-style-type: none"> • promotion of efficient use of prescribed services by customers [cl 8(b)(i), WIRO] • promotion of efficiency in regulated entities as well as efficiency in, and the financial viability of, the regulated water industry [cl 8(b)(ii), WIRO] • provision to regulated entities of incentives to pursue efficiency improvements [cl 8(b)(iii), WIRO] • efficiency in the industry and incentives for long term investment [s 8A(1)(a), ESC Act] • efficient costs of producing or supplying regulated goods or services and of complying with relevant legislation and relevant health, safety, environmental and social legislation applying to the regulated industry [s 33(3)(b), ESC Act] • financial viability of the industry [s 8A(b)(1), ESC Act] 	<ul style="list-style-type: none"> • particular circumstances of the regulated industry and the prescribed goods and services for which the determination is being made [s 33(3)(a), ESC Act] • return on assets in the regulated industry [s 33(3)(c), ESC Act] • ensure that regulatory decision making and regulatory processes have regard to any differences between the operating environments of regulated entities [s 4C(b), WI Act] 	<ul style="list-style-type: none"> • in performing its functions and exercising its powers, the objective of the Commission is to promote the long term interests of Victorian consumers [s 8(1), ESC Act] without derogating from that objective. The Commission must in seeking to achieve the objective have regard to the price, quality and reliability of essential services [s 8(2), ESC Act] • enable customers or potential customers of the regulated entity to easily understand the prices charged by the regulated entity for prescribed services or the manner in which such prices are calculated, determined or otherwise regulated [cl 11(d)(i), WIRO] • provide signals about the efficient costs of providing prescribed services to customers (either collectively or to an individual customer or class of customers) while avoiding price shocks where possible [cl 11(d)(ii), WIRO] • take into account the interests of customers of the regulated entity, including low income and vulnerable customers [cl 11(d)(iii), WIRO]

Benchmarking	Health, safety and social obligations	Other
<ul style="list-style-type: none"> any relevant interstate and international benchmarks for prices, costs and return on assets in comparable industries [s 33(3)(d), ESC Act] 	<ul style="list-style-type: none"> the relevant health, safety, environmental and social legislation applying to the industry [s 8A(1)(d), ESC Act] to ensure that regulatory decision making has regard to the health, safety, environmental sustainability (including water conservation) and social obligations of regulated entities [s 4C(c), WI Act] 	<ul style="list-style-type: none"> the degree of, and scope for, competition within the industry, including countervailing market power and information asymmetries [s 8A(1)(c), ESC Act] consistency in regulation between States and on a national basis [s 8A(1)(f), ESC Act] the benefits and costs of regulation (including externalities and the gains from competition and efficiency) for—(i) consumers and users of products or services (including low income and vulnerable consumers) (ii) regulated entities [s 8A(1)(e), ESC Act] wherever possible, to ensure that the costs of regulation do not exceed the benefits [s 4C(a), WI Act]

Appendix C

Types of risk

Water corporations face a range of risks, both within and outside of their control, for example:

- Inflow risk, which presents as an inability for water corporations to meet customer demand due to extended low rainfall and inflows.
- Demand forecasting risk results where actual customer demand during a regulatory period differs materially from the forecasts. It can be mitigated through effective demand forecasting and variable tariff structures.
- Operational risks, such as a water corporation experiencing a breach of health, environmental or customer performance standards, can result from inadequate processes within water corporations, asset failures or external factors. Water corporations manage these risks through managing operating policies, capital investment, maintenance policies, contracts and insurance.
- Construction risks arise from underestimating costs or project delays. Water corporations can manage these risks through effective forecasting and contract management, as well as including contingency allowances in cost forecasts. Including cost contingencies in water revenue allowances transfers risk of project cost overruns to customers.
- Regulatory and policy risks result from changes in laws and regulations that materially affect a water corporation's costs or revenue potential, and are typically mitigated via a pass-through mechanism.
- Financial risks are those arising from factors which affect the whole economy, such as rising interest rates or economic downturn. These risks are reflected in the cost of debt which forms part of the regulatory rate of return.
- Business risks result from a loss of revenue due to new technology or a change in the competitive landscape. Water corporations can mitigate some of these risks through innovative business practices and continually seeking cost efficiencies.

Regulatory risk mitigation tools

The regulatory regime established through the WIRO and developed in detail through previous reviews generally identifies, categorises and allocates risk in accordance with standard principles and seeks to provide efficiency incentives to the water corporations. The regulatory framework provides the following tools to mitigate or manage risk:

- Recovery of forecast operating and capital expenditure — The forecast expenditure contained within the price submission must be consistent with the risk allocation and incentives provided within the regulatory framework. Therefore, it is important that forecasts are prepared on this basis. Where Western Water seeks recovery of costs for managing risks, we expect it to demonstrate the need for this and provide supporting information in its price submission (Sections 3.7 and 3.8).
- Indexation of prices — This ensures that Western Water remains fully responsible for management of its controllable costs, and that it does not need to bear the full risk associated with general price inflation.
- Cost of capital — This provides compensation for non-diversifiable risk (Section 3.10).
- Form of the price control — This provides a mitigating tool for Western Water. Section 3.13 contains our views on the form of the price control for the next regulatory period. The commission also notes that the form of price control can assist in managing the risk that actual demand varies from forecast demand.
- Tariff structures — Section 3.14 sets out the guiding pricing principles for new tariff structures. The impacts of any shift in the mix of service and variable charges in tariffs on risk sharing between Western Water and its customers will need to be addressed in the price submission.
- Length of the regulatory period — A shorter regulatory period can reduce the risk of forecasting uncertainty (see Section 3.2).
- Pass-through mechanisms — Significant uncertainties that materially affect Western Water and that occur within the regulatory period are generally treated as pass-through events. These events must be clearly identified in the price determination. The uncertain and unforeseen events mechanism established by the commission for the 2008 and 2009 water price reviews provides another option for managing and mitigating risks, subject to certain criteria (see Section 3.15).