IPART

Independent Pricing and Regulatory Tribunal
New South Wales

Guidelines for Water Agency Pricing Submissions

Water – Guidelines

Guidelines
Water Pricing

November 2020

Disclaimer

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The Independent Pricing and Regulatory Tribunal (IPART)

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1 Introduction

These **Guidelines** have been prepared to assist you, as a water utility price-regulated by the Independent Pricing and Regulatory Tribunal (IPART), in preparing a submission to an IPART price review.

Each chapter provides detail on the content required in your pricing submission.

1.1 Our overarching principles

In developing your pricing submission, you should be mindful that we aim to replicate the effects of a competitive market so that you deliver what customers want at lowest prices (or, in other words, you maximise value to customers). In regulating your prices, we aim to ensure that prices reflect:

- The efficient costs of providing the monopoly services, while meeting broader regulatory requirements
- Customer preferences and willingness to pay.

Therefore, your pricing submission should reflect the efficient costs of providing your services, and a strong understanding of what your customers want.

1.2 The purpose of these Guidelines

These Guidelines explain the minimum information requirements for your pricing submission to an IPART price review. Your specific Submission Information Package (SIP), our Issues Paper, or correspondence from us may specify additional requirements.

Your submission to a price review should publicly explain, justify and document your proposed prices for your monopoly services. It should provide us with sufficient information to understand, replicate, analyse and review these prices. A clear and transparent submission is also necessary to enable stakeholders to effectively participate in our review processes.

If your submission is incomplete, inaccurate, or provided late, we may need to base our pricing decisions on our best estimates at the time. Alternatively, we may implement our 'stop the clock' mechanism, whereby we extend the review timetable by the length of the delay.

1.3 Information for the 'historical' and 'forecast' periods

Throughout these Guidelines, we often refer to information required over the historical and forecast periods.

The historical period is the current determination period plus the last year of the previous determination period[1], and the forecast period is five years from the start of the new determination period.

1.4 The relationship between a water agency's pricing submission and its information returns

A number of matters in these Guidelines may also be included in your Excel Annual Information Return (AIR) and Special Information Return (SIR), which accompany your written submission.

It is critical that the information contained in your written submission reconciles with the data you submit to us in the AIR and SIR. We require that your submission, information returns and any other materials provided by you have been subject to a **quality assurance (QA) check** before they are submitted to us.[2] Chapter 9 of these Guidelines explains these requirements.

Your written submission should include all information necessary for informed public participation in the inquiry process, even if you have submitted this information in an information return (AIR and SIR). Unlike your written pricing submission, the AIR and SIR are generally not public documents, but are subject to the *Government Information (Public Access) Act 2009*.

1.5 Checklist of pricing submission contents

Pricing submission checklist

You should complete this checklist prior to submitting your pricing submission. Elements of this checklist are discussed further in the chapters below.

Pricing submission checklist	Provided?
Chapter 2 – Summary and performance requirements	
Executive summary	❑
A separate plain English summary for customers	❑
Your role and functions	❑

1 The last year of the previous determination period is also required because at the time we last reviewed prices the figures in the last year of the (then current) determination period would have been forecasts or estimates (rather than actuals). Updating these estimates for actuals is particularly important for rolling forward the RAB and other elements of our determination that rely on historical data (such as sales forecasts for rural bulk water services).

2 QA checks of materials can be done either externally or by able bodies of other parts of the agency that did not specifically work on the materials.

Pricing submission checklist	Provided?
Your performance over the current determination period	
▼ Service levels	❑
▼ Sales volumes and customer connections	❑
▼ Historical revenue	❑
▼ Historical operating expenditure (data presented in nominal $)	❑
– Totals or comparisons in real $ of the year stated in your SIP letter from IPART	❑
▼ Historical capital expenditure (data presented in nominal $)	❑
– Totals or comparisons in real $ of the year stated in your SIP letter from IPART	❑
▼ Implementation of current determination under section18(5) of the IPART Act	❑
Standards of service	
▼ Service levels (quantity, quality and scope) for next determination period	❑
Chapter 3 - Key building block inputs	
Forecast operating expenditure	
▼ A business case for proposed operating expenditure	❑
▼ Five years of future operating expenditure by service	❑
▼ Operating expenditure in real $ of the year stated in your SIP letter	❑
▼ Drivers, justification and service levels	❑
▼ Approach to allocating common or shared costs	❑
▼ Forecasting methodology, rationale, assumptions and risks	❑
▼ Potential efficiency gains	❑
Forecast and historical capital expenditure	
▼ A business case for proposed capital expenditure	❑
▼ Five years of future capital expenditure by service	❑
▼ Long-term investment plan (at least 10 years)	❑
▼ Capital expenditure in real $ of the year stated in your SIP letter	❑
▼ Drivers, justification and service levels	❑
▼ Forecasting methodology, rationale and assumptions and risks	❑
▼ Key assumptions underlying forecasts and identified risks	❑
▼ The relationship between forecast capital and operating expenditure	❑
Proposed Regulatory Asset Base (RAB), Weighted Average Cost of Capital (WACC), depreciation and asset lives	
▼ Total RAB for each year of the determination, RAB by service and/or service area and supporting calculations	❑
▼ Proposed WACC, WACC components and supporting analysis	❑
▼ Proposed allowance for return on capital	❑

Pricing submission checklist	Provided?
▼ Outline of proposed depreciation method	❑
▼ Proposed asset lives	❑
▼ Proposed allowance for regulatory depreciation (return of capital)	❑
▼ Historical and forecast cash capital contributions	❑
Asset disposals	
▼ Asset disposals, by type and year	❑
Working capital and tax allowances	
▼ Working capital allowance and supporting information	❑
▼ Forecast tax depreciation with written explanation of estimation method	❑
▼ Historical and forecast (non-cash) asset contribution	❑
Chapter 4 – Forecast sales volumes and customer numbers	
Sales volumes	
▼ Sales volumes by year and service, and methodology used to forecast sales (including for drought conditions if applicable)	❑
Customer numbers	
▼ Customer numbers by year and service	❑
▼ Entitlement and licence numbers by year, valley, water source and type (bulk water utilities)	❑
Evidence to support drought forecasts, if applicable	❑
Chapter 5 – Prices and impact	
Proposed prices	
▼ Proposed tariffs for each service over the next five years (real $ of the year stated in your SIP letter)	❑
▼ Non-drought conditions	❑
▼ Drought conditions, if applicable	❑
Impacts of proposed prices	
▼ Indicative prices and bill impacts for the last year of the current determination in nominal $, and all forecast prices and bills in $ of the first year of the new determination period.	❑
▼ Any transitional arrangements to manage or mitigate price changes	❑
▼ Any rebates or other measures to mitigate price impacts	❑
▼ Other impacts and matters in section 15 of the IPART Act	❑
▼ Analysis of affordability	❑
▼ Financial impacts on your agency	❑
Customer consultation	
▼ Details of customer engagement and how it has informed your price proposal	❑

Pricing submission checklist	Provided?
Chapter 6 – Recycled water	
Recycled water	
▼ Check pricing principles for recycled water	❑
▼ Evidence that costs are suitably fully ring-fenced	❑
▼ Supporting information for any proposed cost offsets (such as business cases for avoided or deferred costs, or evidence that other customers are willing to pay for any external benefits of recycled water schemes)	❑
Chapter 7 – Discretionary expenditure	
▼ Discretionary expenditure framework considered	❑
If discretionary expenditure is proposed:	❑
▼ Definition of proposed project or outcome	❑
▼ Evidence of your customers' willingness to pay	❑
▼ Forecast, and where relevant actual, expenditure for discretionary projects	❑
▼ Proposed prices for discretionary expenditure	❑
▼ Output measures	❑
Chapter 8 – Additional requirements	
Unregulated costs and revenue	❑
▼ Ring-fencing of any unregulated costs and revenue	
Finance and operating leases	
▼ Finance and operating leases treated in accordance with our policy	❑
▼ Accounting values for operating leases included in the SIR	❑
Outstanding issues from the previous determination	❑
▼ Explanation of how outstanding issues have progressed with a summary of analysis in appendix	
Elements of regulatory framework	❑
Length of determination period	
Chapter 9 - Quality assurance requirements	
Quality assurance requirements and CEO's Declaration	
▼ QA check has been performed	❑
▼ CEO's Declaration has been provided and signed	❑

1.6 Website resources

A number of resources are available on our website to help you prepare your submission (see Table 1.1 and the relevant sections in the Guidelines).

Table 1.1 List of website resources

Resource	Purpose	Section in the Guidelines
WACC methodology	Explains our current WACC methodology	3.2.2 WACC
WACC biannual market update and WACC model	Provides our biannual WACC estimate and shows our calculation method	3.2.2 WACC
Asset disposals policy	Explains our updated policy	3.2.5 Asset disposals
Working capital allowance policy paper	Explains our updated policy	3.3.1 Working capital allowance.
Rural cost shares	Explains our rural water cost sharing framework	
Wholesale pricing	Explains our approach to wholesale water and wastewater pricing	Chapter 5
Recycled water	Explains our pricing arrangements for recycled water	Chapter 6
Finance leases	Explains our approach	8.3 Finance leases and operating leases
Cost building block and pricing model	Explains how we implement the building block methodology and our updated policies	Chapter 3, various

2 Summary and performance requirements

Your written submission should include:

- an Executive Summary
- a plain English summary
- an outline of your roles and responsibilities
- an overview of your performance over the current determination period
- an explanation of your expected service standards and performance over the upcoming determination period.

2.1 Executive and customer summaries

Your pricing submission should include an executive summary

The Executive Summary should outline and bring together the key elements of your pricing submission, including:

- A description of the activities you are providing to customers that are regulated by IPART.
- An explanation of your proposed prices and price structures (with reference to existing prices and price structures, costs and cost structures).
- A summary of other changes you propose for the upcoming determination (compared to the current determination).
- Your forecast operating and capital expenditure, including the main drivers or reasons for any proposed cost or price increases.
- How your pricing submission has been informed by customer consultation, and how your submission relates to customer preferences.
- The impact of your pricing submission on customers, your performance and financial position.
- Any major changes in the operating environment since the last review that result in changes to regulated services or service levels, costs and/or prices.

Your pricing submission should include a plain English summary for customers

The plain English summary should provide a high level overview of your submission, the main drivers of (or reasons for) price changes and impacts on customers.

The purpose of the plain English summary is to assist customers to better understand your submission and engage in the price review process.

2.2 Your role and functions

Your pricing submission should describe your roles and responsibilities over the current and upcoming determination periods

This section of your submission should provide the context and supporting information for the rest of your pricing submission. It should include:

- The legislative framework in which you operate, including key legislative requirements, objectives and determinants of performance.
- Each of your IPART regulated (or 'monopoly') services.
- The area or areas of each service, customer types and customer numbers for each service.
- Any other services you provide, which are not subject to IPART regulation.

You should highlight any changes to your role and functions for the upcoming determination period.

2.3 Your performance over the current determination period

You should provide information about your performance over the current determination period

Service levels

You should provide detailed information that:

- Compares planned (from the previous price review) and actual service levels.
- Summarises performance against key measures in your operating licence and any measures set at the last price review.
- Provides reasons for not meeting planned standards of service or outputs, and the implications of this for your customers and your operations.
- Provides the numbers and types of complaints in relation to your regulated services and charges.

Historical revenue

You should provide detailed information that includes:

- An overview of the target revenue we set and the actual revenue received annually for each year of the current determination period, and for the determination period as a whole.
- Any deviations between target and actual revenue over the determination period, and the key reasons for these variations.
- The actual revenue for each year in nominal dollars.
- The totals or comparisons in real dollars, using inflation figures provided in the SIP letter.

Sales volumes and customer connections

You should provide information that:

- Compares forecast and actual customer connections (or entitlement volumes)[3] and sales volumes (eg, kL or ML of water sold) over the current determination period.
- Explains any deviations from that forecast, and if there are any implications for the methodology to be adopted in estimating sales volumes or customer connections (or entitlement volumes) for the upcoming determination period.

Historical operating expenditure (each year of the current determination period)

You should provide the following information on historical operating expenditure:

- **Actual** operating expenditure (**opex**) in **nominal dollars.**
- A**ny totals or comparisons over the determination period** (eg, between years) in **real dollars**, using inflation figures provided in the SIP letter.
- An overview of opex drivers, activities and outcomes achieved.
- A comparison of annual opex allowances with actual opex[4] (by service and/or service area) and include a table of results.
- The key reasons for any variances between allowed and actual opex.
- Any significant cost savings or cost increases that you have experienced.

Historical capital expenditure (each year of the current determination period)

We use historical capital expenditure (**capex**) to calculate the closing Regulatory Asset Base (**RAB**) for the current determination period. The RAB is the economic value of the assets used to provide the regulated services. You should:

- Provide us with your calculated closing RAB value, ie, the value of the RAB on the last day of the current determination period.
- Clearly explain and provide all inputs (such as historical asset disposals and capital contributions) that you used to calculate the closing RAB (see section 3.3).

You should also include:

- An overview of the drivers of capex, activities carried out and outcomes achieved for each year of the current determination period.
- **Actual** capex in **nominal dollars.**
- **Any totals or comparisons over the determination period** (eg, between years) in **real dollars**, using inflation figures provided in the SIP letter.

3 In the case of bulk water providers, such as Water NSW for its rural operations and DPI Water (for the Water Administration Ministerial Corporation).

4 For the current/final year of the determination period, we acknowledge that this will have to be a forecast. Agencies that submit price submissions prior to us releasing an issues paper are required to update data for the penultimate year of the current determination period to actuals by September, after the June submission.

- A comparison of the annual IPART capex allowance with actual capex[5] and a table of results.
- The reasons for any variances between allowed and actual capex, including an explanation of the factors taken into consideration when any decisions to vary capital expenditure were made.
- The governance and assurance processes in place around actual capital expenditure.
- Any significant deferment of projects, cost savings or cost increases that you have experienced over the current determination period.

Implementation of the current determination

You should:

- State how the current determination has been implemented.
- If applicable, explain where and why you have not implemented the determination (as required by section 18 of the IPART Act).

2.4 Standards of service

You should explain your forecast service standards including the quantity, quality and scope of activities/services over the upcoming determination period

Service standards are a critical consideration when setting prices. Under section 15 of the IPART Act, we must consider standards for quality, reliability and safety of the monopoly services in setting prices. Those standards may be specified by legislation, agreement or otherwise.

For the next (or 'upcoming') determination period, you should clearly explain your **forecast service standards** including the quantity, quality and scope of activities/services. In addition, you should link these standards to the customer consultation that you have completed. For example, you may have decided to improve service levels beyond that required by regulation because feedback from customers has indicated a capacity and willingness to pay for this additional level of service. Further information on customer consultation is in section 5.3.

You should identify any changes in the following, which may affect your service levels:

- Operating performance standards, targets, and output measures (eg, those contained in an operating licence).
- Environmental standards (eg, those contained in Environment Protection Licences, issued by the Environment Protection Authority).
- Government policy (eg, new targets for water recycling).

5 For the current/final year of the determination period, we acknowledge that this will have to be a forecast. Agencies that submit price submissions prior to us releasing an issues paper are required to update data for the penultimate year of the current determination period to actuals by September, after the June submission.

- Customer preferences (eg, to respond to customer complaints in a particular area, or customer preferences).

3 Key building block inputs

We generally aim to set prices to reflect efficient costs. We use a building block approach to calculate your business's efficient costs (or 'notional revenue requirement'). The notional revenue requirement is comprised of the following:

- Operating and maintenance expenditure
- An allowance for a return on assets (ie, the **RAB** multiplied by the Weighted Average Cost of Capital **(WACC)**)
- A depreciation allowance (an allowance for a return of assets)
- A working capital allowance
- A tax allowance.

We ask that you use the building block methodology in calculating your revenue requirement and proposed prices. The simple cost building block and pricing model on our website explains how we implement the building block methodology.

3.1 Forecast operating and maintenance expenditure

You should forecast operating expenditure for five years

Your pricing submission should list your forecast operating expenditure by service/service area or mode of operation, for each year of the next five years.[6] These costs should be presented in real dollars of the year stated in your SIP letter from IPART (eg, $2021-22).

You need to identify and explain **trends in your forecast expenditure**. In particular, you should provide details of, and reasons for, any changes to operating expenditure. For example, this may include reference to productivity improvements or changes to service standards.

We set prices to reflect efficient costs. Therefore, you should describe your current and forecast **efficiency programs** and the potential for efficiency gains, and how you have included these in expenditure forecasts.

6 We will advise you if we require forecasts for a shorter or longer period.

You should forecast expenditure for the final year of the current determination period

You also need to provide a business case for any actual opex over and above the operating cost allowances we set for the final year of the current determination period.

You should explain your forecasting methodology

Your pricing submission needs to explain your **forecasting methodology** (including its rationale, assumptions and risks) in developing your forecast of operating expenditure.

You should explain the cost drivers for your forecast expenditure

You also need to explain the **cost drivers for your forecast expenditure**. This should be linked to your standards of service, discussed in section 2.4.

When forecasting expenditure, please explain:

- What level of expenditure is required - and when - to meet key regulatory and other obligations **at least-cost**
- Any proposed mechanisms to manage cost uncertainty.

You should consider and explain the relationship between forecast opex and capex

You should outline potential changes to opex resulting from current or proposed capital projects.

You need to explain your approach to allocating common or shared costs

You need to outline your approach to allocating indirect (ie, common or shared) costs across services and service areas, and the rationale for this allocation, including between regulated activities and other functions. For example, this may extend to steps taken to 'ring-fence' the costs of providing unregulated services, or the allocation of corporate overheads between regulated and unregulated businesses. Unregulated services are those that are not subject to our price determination whose costs are excluded from the notional revenue requirement. Section 6.2 provides more detail about ring-fencing.

You need to provide sufficient information to support any proposed costs in drought

As outlined further in Chapter 4, for the 2020 Sydney Water and Hunter Water price determinations, we introduced a drought[7] water usage price. If you are proposing to recover increased costs from customers in periods of drought or lower dam levels, you need to:

7 We use 'drought' as shorthand for describing situations where dam levels decline to levels that require additional supply augmentation and/or water conservation measures – such as, in the case of Sydney, the operation of the desalination plant and the imposition of water restrictions.

- Outline what costs will be incurred in addition to those reflected in your proposed base level (or 'non-drought') prices, and justify that these costs should be recovered from customers (eg, that the costs are efficient, and known with a high degree of certainty).
- Highlight the trigger(s) for this expenditure, eg, dam storage levels, where these costs would be incurred, and justify why this is an appropriate trigger for these costs.

In Chapter 4, we outline the information you need to supply supporting drought and non-drought demand forecasts, including any evidence of the (price) elasticity of water demand, by customer type, you considered in establishing your forecasts.

In Chapter 5, we highlight that you need to outline how these costs would be recovered from customers.

3.2 Forecast capital expenditure

We assess the efficiency of capex as part of a price review. Box 3.1 below outlines what we mean by efficiency.

Box 3.1 The efficiency test

The efficiency test examines whether a utility's capital and operating expenditure represents the best and most cost effective way of delivering services to customers.

Broadly, the efficiency test considers both the investment decision (sometimes referred to as the 'prudence test') and how the investment is executed or delivered, having regard to, amongst other matters, the following:

- customer needs, subject to the utility's regulatory requirements
- customer preferences for service levels, including customers' willingness to pay
- trade-offs between operating and capital expenditure, where relevant
- the utility's capacity to deliver planned expenditure
- the utility's expenditure planning and decision-making processes.

The efficiency test is applied to:

- historical capital expenditure
- forecast capital and operating expenditure

that is included in the utility's revenue requirement, for the purposes of setting regulated prices.

The efficiency test is based on the information available to the utility at the relevant point in time. That is:

- for forecast operating and capital expenditure, we assess whether the proposed expenditure is efficient given currently available information
- for historical capital expenditure, we assess whether the actual expenditure was efficient based on the information available to the utility and the circumstances prevailing at the time it incurred the expenditure.

You should forecast capital expenditure for five years

- Your pricing submission should list your forecast efficient capital expenditure for each year over the next five years.[8,9] These costs should be presented in real dollars of the year stated in your SIP letter from IPART (eg, $2021-22).
- You should describe your current and forecast efficiency programs and the potential for efficiency gains, and how you have included these in expenditure forecasts.
- You should provide details of major projects, explaining the options analysis undertaken and the overall basis for the cost estimate.
- You should outline any governance or assurance practices that have been applied in deciding on your proposed projects, for example gateway review processes.
- Your forecast should include an appendix table listing major projects, their justification, an indication of delivery certainty and the basis for cost estimates. An example is provided below.
- If you are proposing discretionary expenditure[10], your pricing submission must separate the proposed discretionary expenditure from the operating and capital expenditure to meet service standards.

Table 3.1 Example table listing major projects

Project	Total project cost ($19-20, $m)	Justification	Cost split	Options considered	Cost estimate certainty	Delivery certainty
Upgrade XYZ waste water treatment plant	22.3	Population growth will exceed current capacity by 2030. EPA pollution reduction program to reduce phosphorus discharge by 2030.	80% 20%	1. Decommission existing plant and transfer inflows to ABC treatment plant. 2. Retain and upgrade to BNR process.	High – tenders received and contract awarded March 2015.	High – minimal delivery risks.

8 If IPART requires forecasts for a shorter or longer time period, it will advise the agency.

9 In the SIR, we require long term capex information for each year over the next 10 years by service (and service area or mode of operation where applicable).

10 .Discretionary expenditure is incurred when a utility invests in projects that provide services or achieve outcomes that go beyond service standards or environmental obligations specified in the utility's operating licence or other regulatory requirements.

You should explain your capex forecasting methodology

Your pricing submission needs to explain your **forecasting methodology (**including its rationale, assumptions and risks) in developing your forecast capital expenditure.

You should explain the drivers (justifications) for your forecast capex

This should include an explanation of:

- How your forecast capex relates to your standards of service (discussed in section 2.4), regulatory requirements and other obligations (including how the expenditure will achieve required outcomes at least-cost)
- The main drivers for capex in each program or service area (eg, water sources, water treatment, water distribution, sewerage transport, sewerage treatment and disposal, recycled water and stormwater drainage)
- Any areas of uncertainty in your forecasts, including proposed mechanisms to manage cost uncertainty.

You should demonstrate that you considered all options when choosing servicing solutions

Your pricing submission should show that you have considered all available options for providing services (including, for example, innovative new servicing solutions as well as more traditional servicing solutions). For instance, in servicing scenarios where a recycled water scheme could provide a credible servicing solution, you must explain how you have considered such a recycled water solution.

As always, you must explain how the chosen solution will deliver the required outcomes at least net cost to customers.

You should consider and explain the relationship between forecast capex and opex

For example, identify if a capital project will delay or reduce opex.

You should identify how you propose to recover forecast capex

You should explain how you propose to recover forecast investment in very large capital projects. You should also provide analysis to show the impact on customer bills over time.

You should identify any external funding sources for capex. For example, external funding of a particular capital project may be expected from the Federal Government.

Long-term investment plans

We ask that you provide long-term investment plans (at least 10 years) with your pricing submission. These plans will allow us to put forecast capex for the upcoming determination period into context and enhance our assessment of the efficiency of capex.

Ideally, these should have:

- A strategic focus, linked to statutory water plans and population projections.
- A description of investment drivers, linked to business areas.
- Project level detail for the next five years (covering at least the upcoming determination period) and higher level information beyond this period.
- An explanation of assumptions and risk profiles.

3.3 Proposed RAB, WACC, depreciation and asset lives

3.3.1 RAB

The RAB is a key input in calculating the allowances for the return on assets and regulatory depreciation in the revenue requirement. The RAB represents the economic value of assets employed to deliver the monopoly (regulated) services that are subject to price regulation. Only efficient capex should be rolled into the RAB.

To determine the value of the RAB over a determination period, we generally:

- Take the RAB value we determined at the start of the previous period[11] (the opening RAB) and incorporate your efficient actual capex over that period. We make adjustments to account for other changes to the RAB over the period (eg, asset disposals, cash capital contributions, regulatory depreciation and indexation). This determines the opening RAB for the next period.
- Roll forward this opening RAB to the end of the next determination period by including efficient forecast capex over the period and making adjustments to account for other forecast changes to the RAB (eg, asset disposals, capital contributions and regulatory depreciation). This gives the forecast RAB for each year of the upcoming determination period.

You should provide a table with your opening and closing RAB

For each year of the upcoming determination period, you should show your opening RAB and closing RAB, by service and/or service area. You should include calculations (or a model) of how you derived the opening and closing RAB values for each year of the upcoming determination period.

11 The opening RAB for a historical RAB roll-forward is generally the closing RAB of the penultimate year of the current determination period. This is because the final year of a determination period is typically a forecast year, and the actual figures for that final year need to be incorporated into the RAB.

3.3.2 WACC

We apply a post-tax WACC in our price reviews. Information on how we apply our WACC methodology, including decisions on key WACC parameters, will be available in our reports accompanying our price determinations. Our current WACC methodology is available on our website.

You need to provide your proposed real post-tax WACC and supporting analysis

You should include a breakdown of your proposed WACC into its individual parameters and a comparison to parameters used in the previous determination and possibly other recent water determinations. You should explain any proposed changes or adjustments to our WACC parameters.

Since February 2014, we have released bi-annual financial market updates. The purpose of these updates is to allow stakeholders to better understand, replicate and predict our WACC decisions. A WACC spreadsheet, which includes a working copy of our full WACC model, is released with each update. We release updates bi-annually in February and August.

3.3.3 Depreciation

We generally use the straight-line depreciation method to calculate the regulatory depreciation allowance. This means that the total value of the RAB is recovered evenly over the assumed average life of the assets.

You need to identify any proposed changes to the calculation of depreciation, including any proposed changes to the categorisation of assets and asset lives

You should outline your proposed depreciation method, including your justification for change if you propose an alternative to the straight-line approach.

You should also include your proposed asset classes, asset lives (for each asset class), and the methodology and/or assumptions used to determine these. You should justify your approach to determining asset lives and analyse the impact of any changes you propose.

3.3.4 Cash capital contributions

We reduce the RAB by the value of cash capital contributions, by subtracting cash capital contributions (net of tax) [12] from the RAB each year.

You need to report historical and forecast cash capital contributions that contribute to regulated activities, including the assumptions and rationale underpinning forecasts.

12 We adopted this approach to the treatment of tax on cash capital contributions in 2016. Our previous approach had been to include cash capital contributions in the RAB before tax and then to include the tax on these contributions in the tax allowance. (For example, see IPART, *Review of prices for Sydney Water Corporation from 1 July 2016 to 30 June 2020, Water – Final Report*, June 2016, pp131-133.)

3.3.5 Asset disposals

We remove the **regulatory** value of asset disposals from the RAB. Our asset disposals policy explains how we propose to estimate this regulatory value and how we propose to treat associated profits or losses. Our asset disposals policy can be found on our website.

You need to report historical and forecast asset disposals in the SIR.

3.4 Proposed working capital and tax allowances

3.4.1 Working capital allowance

We include a working capital allowance in the notional revenue requirement to allow a business to recover the costs it incurs due to delays between it delivering regulated goods or services and receiving payment for those goods or services (net of any benefits it receives due to delays between it receiving goods or services and paying for those good or services). Our working capital allowance policy paper explains how we propose to calculate this allowance, and the cost building block and pricing model shows how we propose to implement our policy. The policy paper and the model are available on our website.

You need to include in your submission your proposed working capital allowance and the underlying information that you used to calculate your proposed allowance.

3.4.2 Tax allowance

We include tax as a separate allowance in the notional revenue requirement, consistent with our use of a post-tax WACC.[13]

We calculate a commercially based tax allowance as a separate building block (ie, the tax liability of a similar, well-managed privately owned business).[14] We do not factor in actual tax losses into our regulatory determinations.

If you propose a change to our approach to calculating the tax allowance, you should outline its rationale and an analysis of its impacts.

You need to provide your forecast tax depreciation

If you pay tax or a tax equivalent, you need to provide your forecast tax depreciation in the SIR, with separate forecasts for:

- Assets existing at the end of the last financial year for which you have actual information.[15]
- Forecast assets funded by the business from the start of the next financial year (ie, capex, gross of cash capital contributions).
- Forecast (non-cash) asset contributions.

13 IPART, *The incorporation of company tax in pricing determinations – Final Decision*, December 2011.
14 IPART, *The incorporation of company tax in pricing determinations – Final Decision*, December 2011.
15 This will generally be the penultimate year of the current determination period.

You also need to provide a written explanation of how you have estimated your tax depreciation forecasts, which is signed off by your CEO. Please be aware that if, after seeking clarification and further information, we are not satisfied that your forecasts represent a reasonably accurate estimate, we will make our own best estimate.

We will invite you to submit revised tax depreciation forecasts for capex and (non-cash) asset contributions based on our draft report capex and (non-cash) asset contribution allowances.

You need to report your (non-cash) asset contributions

You need to report the (non-cash) asset contributions that you have received over the historical period and those that you expect to receive over the forecast period.

4 Forecast sales volumes and customer numbers

Once we determine efficient costs, we use forecast volumes to set prices in line with decisions on price structure. This chapter details our information requirements in relation to **forecast volumes**. The next chapter provides information about prices and price structures.

We use forecast sales volumes and customer numbers (or entitlement volumes) to calculate water prices. It is therefore important that you provide accurate forecasts, and that we are able to understand how these forecasts were derived.

For the 2020 Sydney Water and Hunter Water price reviews, we introduced a drought water usage price. Drought prices were set to allow recovery of the efficient costs utilities incur to ensure the supply of water in times of low water storage levels, and to take into account the forecast impact of water restrictions on the volume of water sold.

If you are proposing drought prices, the information below should be provided for both drought and non-drought conditions.

4.1 Sales volume forecasts

You need to forecast sales volumes by year

Please provide forecasts in categories that are consistent with prices. For instance, in the case of bulk water utilities, this may mean forecast water sales by water source and valley. In the case of metropolitan water utilities, this may mean forecast water sales by water service type (eg, potable, unfiltered, etc).

To support your forecasts, you should explain the methodology and key inputs you used, as well as the assumptions made in calculating your forecasts.

You should also highlight any risks or uncertainties associated with your forecasts.

4.2 Customer numbers or entitlement forecasts

You need to forecast customer or entitlement numbers by year

You need to provide forecasts of customer and connection numbers by year, service and service area.[16] To support these forecasts, you should explain the methodology and key inputs you have used, as well as the assumptions made in calculating your forecasts. You should also highlight any risks or uncertainties associated with the forecast.

16 Information is needed for all customers that are provided a monopoly service, irrespective of whether they are charged a price or not, eg, certain properties/customers can be exempt from service charges but still receive regulated services.

Like forecast sales volumes (mentioned above), you need to provide forecast customer or connection numbers in categories that are consistent with prices.

If you are a **metropolitan water utility**, you need to forecast **connection and customer numbers** by **year**, **service** (ie, water, sewerage and stormwater), **customer type** (eg, residential and non-residential), **dwelling type** and **meter size.** These are needed in order to calculate fixed charges.

If you are a **bulk water utility**, you will need to provide **water entitlement numbers** by **year, water source, valley** and **type of entitlement**, such as high or general security. We use entitlement numbers to calculate entitlement charges.

4.3 Additional considerations if you propose a drought usage price

The evidence you provide to support drought and non-drought demand forecasts should include the basis on which you calculated the demand reduction during periods of drought. Ideally, this would include any checks you performed to test and show that your forecasts represent a reasonable projection of water demand in drought.

The evidence supporting a demand reduction could include:

- The expected impact of water restrictions on demand.
- The reduction in water demand, by customer type, due to a higher water usage price (ie, the price elasticity of demand).

Drought forecasts and water demand forecasts should be 'internally consistent'. For example, if you forecast that drought would occur every '1 in 10 years', you should not provide a '1 in 100 years' demand forecast as the basis for water demand forecasts in drought.

Even if you do not propose a drought water usage price, you should provide any available estimates of the price elasticity of demand in your pricing proposal.

5 Proposed prices and impacts

In making price determinations, we are required to have regard to matters listed under section 15 of the IPART Act.

A key principle in setting prices is that they should be cost-reflective. This means your prices derive sufficient revenue to recover the efficient costs of delivering your monopoly services. Ideally, your price structures should also match your cost structure. In other words, your usage charge should reflect your marginal cost of supply – in general, the long run marginal cost of supply (LRMC), depending on the circumstances – and your service or entitlement charges recover your remaining costs. Cost-reflective prices ensure the efficient allocation and use of resources, to the benefit of society.

5.1 Proposed prices

You should propose prices for each of your services

Your pricing submission should list **each** of your proposed tariffs, for **each** of your services, over the next five years.[17] This includes any drought prices that you have proposed in your submission.

You should include each element of a multi-part tariff structure (eg, fixed and usage charges), as well as individual miscellaneous or administration fees or charges.

Your pricing submission should also provide your reasoning or justification for **each** proposed tariff or charge, including:

- The relationship between your price (level and structure) and your costs of service.
- The relationship between your proposed price structure and the price structure and level of the current determination.
- Analysis of any 'willingness to pay' information available to you (derived from your customer engagement activities).
- The number of fees or charges forecast to be levied over the upcoming period for each type of miscellaneous or administration fee or charge, and the basis for these forecasts.

5.1.1 Water usage charge under normal weather conditions

In past metropolitan water price determinations, we have set water usage charges with reference to the LRMC of water supply. We consider LRMC is an important benchmark for setting the water usage charge as it generally sends an appropriate signal about the cost of meeting sustained increases in demand over the long term.

17 We will advise you if we require forecasts for a shorter or longer period.

We also established pass-through mechanisms so the marginal cost of supply of drought response measures (such as operating the Sydney Desalination Plant) is reflected in water usage prices, where appropriate.[18] We recognised there may be further opportunities to refine water usage prices so they better signal to end-use consumers the marginal value of dam water or short-term imbalances between supply and demand.

If you are a metropolitan water utility, you should set out your estimate of the LRMC of water supply, your approach for calculating the LRMC, and your views on the parameters used to estimate the LRMC. Box 5.1 below provides useful information about estimating LRMC for water and wastewater.

Your submission should provide estimates of the cost of securing short-term water needs (ie, the short run marginal cost (SRMC) of water supply), including how this can change under various scenarios (eg, with dam levels and/or bulk water supply operating rules).

You should explain how your proposed water usage prices relate to (or differ from) your estimates of LRMC and SRMC of water supply, and justify your proposed prices.

5.1.2 Water usage charge under drought conditions

As Chapter 4 noted, a drought water usage price allows recovery of the efficient costs incurred to ensure the supply of water in times of low water storage levels, taking into account the impact of restrictions and higher prices on the volume of water sold. If you are proposing a drought water usage charge, your submission should outline, and justify, how any additional expenditure that needs to be incurred as a result of drought conditions would be recovered from customers.

5.1.3 Sewerage usage charge

When proposing sewerage usage charges, your submission should provide your best estimate of the LRMC of supplying sewerage services (by area or catchment). It should also set out an estimate of SRMC.

You should explain how your proposed sewerage usage charges relate to (or differ from) your estimates of the SRMC and LRMC of providing sewerage services, and the rationale for your proposed charges.

You should set out any other assumptions (and provide supporting information and explanation) for your SRMC and LRMC estimates and your proposed sewerage charges.

18 See IPART, *Review of prices for Sydney Water Corporation, From 1 July 2016 to 30 June 2020, Final Report, June 2016*, pp 154 – 159.

Box 5.1 Principles of estimating long run marginal cost

Estimates of long-run marginal costs should:

- Capture all relevant supply chain components (eg, potable bulk water supply, treatment and transport, and wastewater transportation, treatment and disposal).
- Be sufficiently location specific and granular to provide meaningful price signals for consumption and investment in a given location (eg, by wastewater catchment for sewerage usage prices).
- Reflect relevant cost drivers and include all relevant system-wide costs.
- Be based on an efficient portfolio of credible investment options, ideally reflecting (published) information on system limitations and relevant strategic plans (eg, metro water plans and integrated water cycle management plans).
- Use transparent and well-justified assumptions, including established population growth and climate forecasts or models, accepted water, wastewater and stormwater system planning assumptions, and relevant probabilistic or deterministic standards.
- Reflect a time horizon that would be expected to capture the lifecycle of the next major augmentation of the relevant system.
- Use the best available information/data for the relevant inputs.
- Use a discount rate equal to the prevailing Weighted Average Cost of Capital determined by IPART.
- Use established and generally accepted estimation approaches, such as the Turvey Perturbation or Average Incremental Cost methods.
- Be exposed to sensitivity analysis to test how changes in inputs and assumptions affect results.

5.2 Impacts of proposed prices

You need to assess the impact of proposed prices on your business and your customers

You should provide indicative bill impacts for all customer types by service, including the assumptions used in this bill impact analysis.

The sections below provide more details about the areas in which you need to provide analysis.

5.2.1 Transitional arrangements to manage or mitigate proposed changes in price

You should detail any transitional arrangements to manage price changes

You need to provide a justification for the arrangements and assessment of costs in terms of forgone revenue. Examples of measures that you may propose include:

- Setting a smoothed, NPV-neutral, price path over the determination period approach.

- Gradually transitioning to or towards cost-reflective prices (ie, prices that recover your full notional revenue requirement) over several years (eg, by the end of the determination period or even over several determination periods).
- Excluding a portion of the RAB. You should provide a justification and costing of any submission to exclude a portion of the RAB.

In instances where your proposed prices would not recover your notional revenue requirement in NPV terms over the determination period, you should explain how the shortfall would be funded, and any impacts of the shortfall on the water business, its levels of service and/or other parties.

5.2.2 Rebates and any other measures to mitigate the impact of proposed prices on customers, particularly vulnerable groups

You should outline your Community Service Obligations

Examples of Community Service Obligations (CSOs) include rebates, exemptions and any other measures that are available to customers to mitigate pricing impacts (eg, pensioner rebates and exemptions for 'Exempt' properties).

Our policy for State Owned Corporations (eg, Sydney Water, Hunter Water, Water NSW and Essential Energy) is that the funding of CSOs is a matter between the NSW Government and each agency. Therefore, we do not include the expected shortfall in revenue due to CSOs in efficient costs, for the purposes of setting maximum prices.

Other utilities, such as the Central Coast Council, should provide information on the number of exempt properties and the number of customers eligible for pensioner rebates, to allow us to calculate the expected shortfall in revenue that results.

Where pensioner rebates are available, you should provide an analysis of pensioner bills, and compare pensioner bills to full bills. Forgone revenue from providing CSOs should be clearly identified, as well as any revenue received from Government to fund CSOs and an explanation of how this funding relates to the costs of the CSOs.

5.2.3 Other impacts (eg, environment and other section 15 considerations)

You should consider and explain any other impacts of your pricing submission

Section 15 of the IPART Act requires us to consider a number of factors, other than those related to the costs of providing regulated services, when making a price determination. These include, but are not limited to, the environment and the social impact of price determinations.

Where relevant or material, you should provide any additional information available about the environmental and social impacts of your pricing submission.

5.2.4 Affordability

You should justify that your proposed prices are affordable for customers

To do this you could, for example, present average or typical residential bills as a proportion of average household income. For residential and non-residential customers, you could also:

- Compare average or typical bills to those of other water utilities.
- Show the rate of change in bills over time – particularly current vs proposed.
- Consider customers' ability to mitigate their bill impacts (eg, through using less potable water or changing the volume or characteristics of their discharges to the wastewater network).

You could also provide an analysis of customer willingness to pay for additional services or service upgrades. See the discussion of this issue below in section 5.3.

The level of analysis on affordability should be proportionate to the size of proposed bill increases.

5.2.5 Impacts on the regulated water utility – financial ratios, financial viability and financeability

You should analyse the impact of your proposed prices on your business's financial viability and financeability

Your pricing submission should address the consequences of your proposed prices on your regulated business, including any impacts of the proposed prices on your financial ratios.

For our price determinations, we consider the likely effects of our pricing decisions on the financial sustainability ('financeability') of your regulated business. This means we assess whether your business will be able to raise finance consistent with an investment-grade rated firm (BBB or Baa2) during the regulatory period.

We reviewed our financeability test in 2018 and, in line with our updated test, we will calculate financial ratios for both a benchmark test and an actual test. We will conduct the benchmark test by using the benchmark gearing ratio and a benchmark real cost of debt. We will conduct the actual test by using your business' actual gearing ratio and a forecast of its actual cost of debt. If the benchmark test suggests a financeability concern, we will reassess our pricing decisions. If the actual test suggests a financeability concern, we will conduct further analysis to identify the source of the concern and tailor our response to the source of the concern.[19]

To allow us to conduct the actual test, we require that you provide information in the AIR/SIR, which includes *inter alia*, your:

- current gearing ratio
- (actual) expected cost of debt over the determination period

19 See IPART, *Review of our financeability test - Final Report, Research*, November 2018.

- expected proportion of debt that is denominated in inflation-linked or low-coupon bonds
- adjustments for superannuation liabilities and operating leases.

Further information on our 2018 financeability test is available on our website. The cost building block and pricing model shows how we will calculate the ratios.

5.3 Customer consultation

You should indicate how customers have been consulted about your proposed prices, and how customer views are reflected in your pricing submission

As outlined at the beginning of these Guidelines, you should have a strong and up to date understanding of your customers' preferences.

You are responsible for engaging with your customers to understand their views, priorities and needs, which should inform your decision-making and your pricing submission. You are also responsible for the form and content of your consultation.

Customer engagement by water utilities could be used to argue for proposals such as:

- **Regulatory allowances for discretionary expenditure**[20] – we require evidence of customer capacity and willingness to pay (see section 7.3) to achieve outcomes above those mandated by regulation (eg, environmental standards above those required by the EPA).
- **Changes to price structures** – along with cost structure, customer preferences would be a relevant consideration in reviewing price structures.
- **Changes to service standards** – customers' capacity and willingness to pay for higher standards, or willingness to accept lower standards, would be key considerations in any review of operating licence service standards.

Customer engagement should be consistent with specific principles, including that they are:

- **Relevant**

  The utility targets its engagement at the issues it is seeking input on and makes the engagement relevant to the circumstances of the utility and its customers.

- **Representative**

  The utility gives a representative sample of customers potentially affected by the proposal meaningful opportunity to participate and sufficient time to provide their views.

- **Proportionate**

  The utility conducts engagement that is proportionate to the potential impact on service and/or price and does not place an undue burden on participants.

- **Objective**

  The utility's engagement is objective and not biased towards a particular outcome.

20 Discretionary expenditures occur when you invest in projects that provide services or achieve outcomes that are not mandated, or go beyond service standards stipulated in your operating licence or other regulatory instruments/requirements.

- **Clearly communicated and accurate**

  The utility provides clear and accurate information to customers during the engagement process. The utility presents information in a form that makes clear: what the purpose of the engagement is; how the utility will use the results; any potential trade-offs between service and price; and the impacts (including cumulative impacts on services and/or bills) of the options being considered. Customers are provided with feedback on how the results of the customer engagement have informed the utilities' position.

IPART may also have regard to other relevant matters, depending on the nature of the proposal and regulatory decision.

6 Pricing and funding of recycled water schemes

During 2018-19, we reviewed our pricing arrangements for recycled water, sewer mining[21] and stormwater harvesting services provided by the following public water utilities:

- Sydney Water Corporation (Sydney Water)
- Hunter Water Corporation (Hunter Water)
- Central Coast Council
- Essential Water.

In the Final Report for that review,[22] we provided a set of pricing principles along with guidance on the application of the funding frameworks for recycled water, sewer mining and stormwater harvesting schemes. We also noted that we would update and refine this guidance and the pricing principles on a regular basis in our *Guidelines for Water Agency Pricing Submissions* (this document).

We established funding frameworks for three categories of recycled water schemes:

1. Least-cost recycled water schemes – where the recycled water scheme is part of a least-cost servicing solution.
2. Higher-cost recycled water schemes – where the recycled water scheme is **not** part of a least-cost servicing solution.
3. Stormwater harvesting and sewer mining schemes.

We set out below the information we require you to provide in your pricing submission for each of these categories of recycled water schemes, to support the funding frameworks.

We also distinguish between mandatory and voluntary recycled water services on the basis of the level of effective choice available to the customer. A mandatory service is when a customer cannot choose its water supplier, or there are practical barriers to opting out. In these cases, there is potential for the abuse of monopoly power from which customers need protection. We have established pricing principles that the public water utilities will have to adhere to when supplying mandatory recycled water services. We include these principles below, and you will need to demonstrate in your submission that you adhere to these principles. If we deem there is cause to do so, we may step in and set prices for mandatory recycled water services.

By contrast, where customers can choose whether to purchase recycled water, for example instead of potable water, the need to regulate prices is diminished. We refer to such services as voluntary recycled water services. For voluntary recycled water services, stormwater harvesting and sewer mining services, we encourage unregulated pricing agreements and would only step in when warranted to set prices under scheme-specific reviews, if requested

21 Our pricing arrangements for sewer mining applies to Essential Energy only.
22 IPART, *Review of pricing arrangements for recycled water and related services – Final Report*, June 2019.

to do so by either customers or the public water utility. You may choose, but are not required, to include in your pricing submission information on the prices you charge for your voluntary recycled water services, stormwater harvesting and sewer mining services.

6.1 Least-cost recycled water schemes

Least-cost recycled water schemes will be treated like any other least-cost investment in water, wastewater and/or stormwater.

In demonstrating that a recycled water solution is a least-cost servicing solution, you must provide evidence that other servicing solutions were considered, and that these were a higher net cost than the chosen recycled water solution.

Your submission also needs to address two additional key issues.

In proposing potable water prices you must account for potable water sales displaced

For least-cost recycled water schemes, the full cost of the scheme is recovered from customer charges and developer charges (where they apply) for potable water, wastewater and/or stormwater. We allow you to retain revenue from recycled water, but to avoid over-recovery, when setting potable water prices we require you to include an estimate of potable water sales displaced due to the recycled water scheme. That is, your demand forecast for potable water should include any potable water demand that you expect to be displaced by recycled water.

You must explain your rationale for your allocation of scheme costs to services

Please explain your rationale for allocating recycled water scheme costs to water, wastewater and/or stormwater services, including how you have considered:

- the location and nature of any cost offsets – what type of costs are being incurred/offset
- the upper and lower bounds of efficient pricing for each service
- the principle that no customer should be made worse off by the public water utility investing in recycled water.

6.2 Higher-cost recycled water schemes

You must provide robust evidence to support avoided and deferred cost claims

We allow you to apply to **recover avoided or deferred potable water, wastewater and/ or stormwater costs** as a result of recycled water schemes from the broader customer base (and developer charges where they apply). We will assess and determine avoided/deferred costs in conjunction with our review of your operating and capital expenditure that occurs as part of our price determination process.

Supporting evidence must be provided in your submission, including at a minimum, the information outlined in Box 6.1.

Box 6.1 Information requirements for claims for avoided and deferred costs

When submitting to IPART a claim for avoided or deferred costs, the public water utility must include, at a minimum:

- An explanation of the drivers of the water, wastewater or stormwater infrastructure augmentation that is expected to be avoided or deferred from the operation of a recycled water scheme.
- Descriptions of the least-cost servicing solution (base case) and the recycled water solution for which avoided and deferred costs are being claimed, including the assumed optimal timing of investments, and the investments being deferred or avoided.
- An overview of all other credible options considered.
- Forecasts of operating and capital expenditure for the least-cost traditional servicing solution that would meet the relevant water supply, wastewater or stormwater performance.
- Current and forecast population and demand to be serviced.
- Assumed performance standards and other relevant environmental and regulatory requirements.
- Sensitivity analysis to show the impact of variations in assumptions and forecasts.
- A description of how the value of keeping options open has been considered.[a]
- A description of any recycled water system back-up and top-up provisions from the potable water supply and contingency provisions for sewerage and stormwater systems.
- A map to define the system area to aid an explanation of the relevant boundaries and the recycled water scheme's interaction with the surrounding water and wastewater infrastructure. This would demonstrate that a proposed avoided cost is not merely the result of reducing the demand at one water treatment plant by shifting this demand to another water treatment plant within the same connected system area.

a Options value refers to the value of delaying an irreversible commitment to an investment, where it increases the likelihood of delaying or avoiding the need for the investment, or that the cost of the investment would reduce - eg, as a result of technological progress. The AER's Regulatory Investment Test requires transmission and distribution businesses to assess options value as part of their investment decisions. We also note Hunter Water recently proposed to include options value in its ELWC methodology.

Source: Based on IPART, *Review of pricing arrangements for recycled water and related services – Final Report*, June 2019, p 37.

Where several recycled water schemes have cumulative effects on avoided and deferred costs, each scheme's contribution to the cumulative effects should be recognised. Therefore, when making a claim for avoided and deferred costs, you should have regard to the cumulative impact of all recycled water schemes under consideration, where their impacts might overlap. Each scheme should be attributed the appropriate contribution toward the cumulative impact of the schemes.

We require that your claims for avoided and deferred costs are:

- In the first instance, based on long-run marginal cost (LRMC) estimates.
- In lieu of robust long-run marginal cost estimates, calculated as the difference between long-term system-wide costs for potable water, wastewater and/or stormwater services *with* the recycled water scheme(s) and *without* the recycled water scheme(s) (but excluding the cost of the scheme(s) itself).

- Net of revenue forgone where potable water sales are displaced by recycled water.

In Chapter 5, we provide a set of high-level principles for the estimation of LRMC in Box 5.1. We have also provided high-level principles for estimating avoided and deferred costs under the 'with vs without' approach, in Box 6.2.

For the purposes of the Avoided Cost Principles in Schedule 4 clause 7.3 in our 2019 Final Determination for maximum prices for connecting to a recycled water system,[23] a public water utility must adopt the principles in:

- Box 5.1 where robust LRMC estimates can be estimated
- Box 6.2 where robust LRMC estimates cannot be estimated.

23 IPART, *Maximum prices for connecting to a recycled water system – Final Determination*, July 2019.

Box 6.2 Principles for calculating avoided and deferred costs under the 'with vs without' approach

In calculating avoided and deferred costs under the 'with vs without' approach, the public water utility must adhere to the following principles:

- Where practical, all system-wide costs that could be impacted by the scheme(s) under consideration must be included in both the 'with' and the 'without' case.
- Where there is more than one scheme under consideration, and where there may be a cumulative effect of a combination of the schemes, the public water utility should have regard to this cumulative effect when formulating the 'with' case. The savings from these schemes may best be considered together, with the cumulative saving attributed in a meaningful way to each scheme.
- The 'without' case must be based on the long-term least-cost traditional servicing solution that delivers the required service outcomes while meeting regulatory requirements.
- Both the 'with' and 'without' case should reflect (published) information on system limitations and align with any relevant integrated water resource or water cycle management plans, or other strategic plans (eg, for wastewater catchments).
- Cost and demand estimates must be based on transparent and well-justified assumptions, including established population growth and climate forecasts or models, accepted water, wastewater and stormwater system planning assumptions, and relevant probabilistic or deterministic standards.
- Estimates of future operating costs should be over a time period of 30 years, while capital costs may go beyond 30 years, consistent with the time period used to calculate recycled water developer charges.
- Capital and operating expenditure should be taken into account but depreciation should be ignored (as over the long term, it is the discounted actual total operating and capital costs that are calculated).
- The best available information/data must be used for all relevant inputs.
- The calculation of present values must use a discount rate equal to the prevailing Weighted Average Cost of Capital determined by IPART.
- The calculations must be exposed to sensitivity analysis to test how changes in inputs and assumptions affect results.

Claims for external benefits must be supported by willingness to pay evidence

A public water utility can seek to have its broader customer base contribute toward the cost of a higher-cost recycled water scheme in recognition of any external benefits resulting from the scheme. For the purpose of identifying external benefits of recycled water, we have decided that they should be:

- **Additional** to any health, environmental, or liveability outcomes already mandated by Parliament and/or Government (the ***additionality principle***).
- **Specific** to recycled water and the recycled water scheme in question (the ***specificity principle***).

Further, to qualify for funding by the broader customer base, the onus is on the public water utility to demonstrate customers' willingness to pay for the external benefits (the ***willingness to pay principle***). To assist public water utilities, we have provided general guidance on best practice principles for measuring willingness to pay, included at section 7.3.

Where customers are not willing to pay for external benefits, they may still be funded through a government subsidy, or from customers under a directive from government. We also note that our funding framework does not preclude public water utilities from seeking alternative funding arrangements, such as co-funding agreements with beneficiaries of recycled water schemes.

For the purposes of the External Benefit Principles in Schedule 4 clause 7.4 in our 2019 Final Determination for maximum prices for connecting to a recycled water system, a public water utility must adopt the principles above of additionality, specificity and willingness to pay.

Remaining scheme costs must be ring-fenced along with recycled water revenue

The value of avoided and deferred costs and external benefits would be included in the regulatory cost base for potable water, wastewater and/or stormwater, to be recovered from customer charges and developer charges (where these apply). Similarly, the government could direct a further portion of recycled water scheme costs to be included in the regulatory cost base.

You are required to ring-fence any remaining scheme costs from the other parts of your business. This is to ensure recycled water costs are not unduly recovered from regulated potable water, wastewater or stormwater customers.

These remaining scheme costs may be funded from recycled water customer charges, recycled water developer charges and/or government subsidy or other external funding.

You need to provide evidence of this ring-fencing in your pricing submission.

6.3 Stormwater harvesting and sewer mining schemes

You can retain or share avoided and deferred costs resulting from sewer mining and stormwater harvesting schemes with the proponents of those schemes, as well as with your broader customer base.

You may enter into unregulated agreements with sewer miners and stormwater harvesters concerning arrangements for sharing some, or all, of the avoided or deferred costs with the sewer miner or stormwater harvester. You should share 50% of any remaining avoided and deferred costs with your broader customer base, by adding 50% of the remaining avoided and deferred costs to your regulatory cost base.

The sharing of avoided costs with sewer miners and stormwater harvesters does not preclude you from charging for the sewer mining and stormwater harvesting services you are providing. The sharing of avoided and deferred costs can be in the form of a reduction in the

price that you would charge for these services. Alternatively, it can result in no charge for the services, or a payment to the sewer miner or stormwater harvesters.

Any amount retained or shared with a stormwater harvester or sewer miner is effectively funded by the broader customer base. In your submission, you must therefore provide evidence of any avoided and deferred costs claimed as a result of a stormwater harvesting or sewer mining scheme. You must also provide details on facilitation costs incurred, and any payments received from or made to the stormwater harvester or sewer miner.

6.4 Pricing principles for mandatory recycled water services

We have established a single set of pricing principles that deal with pricing structure and levels to be applied to mandatory recycled water services, where customers do not have effective choice. These are provided in Box 6.3 below. They are to be followed by public water utilities in setting prices to customers receiving mandatory recycled water services, and can also guide negotiations for unregulated pricing agreements and set expectations for scheme specific reviews.

Box 6.3 Pricing principles for mandatory recycled water services

The structure and level of recycled water prices:

1. Should ensure that appropriate price signals are sent to recycled water users with the aim of balancing supply and demand, and should entail an appropriate allocation of risk.
2. Should include a usage charge, which must have regard to the price of substitutes (such as potable water and raw water). Where the usage charge exceeds the substitute price, water utilities must demonstrate willingness to pay by the recycled water customer.
3. May include a fixed service charge, which should have regard to customer impacts, willingness to pay and not act as a material incentive for customers to disconnect from the recycled water scheme.
4. Should have regard to an efficient distribution of costs between recycled water customers and developers, in line with our funding framework for mandatory recycled water services.
5. Should be simple and understandable.

7 Pricing and funding of discretionary projects

As part of the 2019-2020 pricing reviews, we developed a framework to guide our assessment of the discretionary expenditure that Sydney Water and Hunter Water included in their pricing proposals.

As part of this framework we consider, and could allow, recovery of the costs of discretionary projects via regulated prices, subject to clear evidence that it would be efficient for customers to pay to exceed mandated standards. For instance, we would consider whether:

- The proposal would best fit with your responsibilities or whether it would best fit with another party's responsibilities
- Your customers have the capacity and willingness to pay (WTP) for the discretionary expenditure (based on information or evidence you provide).

More broadly, our framework emphasises the importance that the bill impact faced by your customers is no more than they are willing to pay for the discretionary projects. As part of this, it is important that you sufficiently demonstrate what customers are willing to pay for your proposed discretionary projects. You should aim to conduct robust and well-designed willingness to pay surveys, which produce statistically significant results, to ensure your discretionary expenditure proposals are sufficiently supported and, therefore, more likely to be allowed to be recovered from regulated prices.

We set out below the information we require you to provide if you propose any discretionary expenditure as part of your pricing submission.

7.1 Overview of our discretionary expenditure framework

If you are proposing any discretionary expenditure, you are required to carefully consider if it meets the requirements of the framework, and address these requirements in your written proposal. An overview of our framework is provided in Table 7.1.

We provide more detail on some key aspects of these requirements in the sections below the table, but you should refer to our 2020 Final Reports for the Sydney Water and Hunter Water price reviews for a more comprehensive understanding of our discretionary expenditure framework.[24]

24 IPART, *Review of prices for Hunter Water Corporation from 1 July 2020*, Final Report, June 2020, Appendix Q and *Review of Prices for Sydney Water from 1 July 2020*, Final Report, June 2020, Appendix V.

Table 7.1 Overview of our discretionary expenditure framework

Phase	Description
Phase 1: Project definition	▼ The project or outcome is adequately described and defined. At a minimum, the project or outcome specification must include the following characteristics and conditions: – Location, customers/users benefiting from (or creating the need for) the project, delivery timeframes, whether it will be replacing another service and outcomes expected. ▼ The project or outcome fits within the utility's responsibilities and is related to its monopoly services. ▼ The project is discretionary.
Phase 2: Willingness to pay	▼ Survey participants are given sufficient context and information on the proposed project or outcome. This should align with the characteristics and conditions of the project definition identified in Phase 1. ▼ The survey identifies customers' maximum willingness to pay in dollar amounts. These will be the upper limit to the customer share of the cost of the project/outcome estimated in Phase 3. ▼ The survey used to elicit customer willingness to pay is well designed and the results are statistically valid. ▼ Bill impacts should be shown in the context of the broader bill impact.
Phase 3: Efficiency test	▼ The project/s is prioritised and optimised within the utilities' broader responsibilities. ▼ The project/s is the most efficient way of achieving the outcome. ▼ Total efficient cost estimates should transparently net off any avoided costs and/or grants.
Phase 4: Recovery & delivery incentives	▼ The proposed prices to customers recover only the efficient cost of the outcome or project determined in Phase 3. ▼ Bill impact per household is equal to or less than willingness to pay from Phase 2. ▼ Charges are recovered from customer categories whose willingness to pay was assessed in Phase 2. ▼ Separate RAB with appropriate asset lives to enable discretionary expenditure to be tracked. ▼ Transparent and accountable – utility to develop and propose approaches to ensure accountability. ▼ Next period adjustment will consider whether any underspend is returned to customers or retained by the utility for other projects or as an efficiency gain.
Phase 5: Implementation & performance commitments	▼ Capture the program as an output measure to ensure sufficient reporting on what is achieved. ▼ Ex-post adjustment mechanism to ensure only investments in line with project definition in willingness to pay survey are added to the RAB. ▼ Where proposed expenditure is not carried out or outcomes are not delivered, funds collected through the discretionary charge may be returned to customers in the subsequent determination period. ▼ Outline expectation that the charge remains equal to or below demonstrated willingness to pay amount over the long term.

7.2 Project definition

You should show how your proposed discretionary expenditure is related to your monopoly services

You should show how the project or outcome relates to your mandatory monopoly services and fits within your responsibilities. For example, you should confirm:

- You are the most suitable agency to deliver the proposed outcome or project.
- That the proposal best fits within your responsibilities instead of another party or party's responsibilities, such as another arm of government or local government.

You should demonstrate that the discretionary project/outcome you propose was informed by your customers

You should show evidence that the proposed discretionary project or outcome is customer driven, through:

- Demonstrating an understanding of your customers' priorities and preferences and how this informed the proposal and overall decision-making process.
- Providing results of any consultation undertaken with customers, for example where customers were offered a menu of options and asked to rank the projects or indicate which projects of those offered they would prefer.

You should define the project in terms of the outcomes the expenditure will achieve

The project's definition or desired outcome should be clearly set out in your proposal, and be consistent with what was presented to customers when asking their willingness to pay.

In some cases, a discretionary project may be defined by the characteristics and conditions of the outcome that you want to achieve instead of a specific project. This is because you may want to confirm the extent of your customers' WTP for an outcome before allocating funds to scope and plan for a specific project that would achieve that outcome. For example, your preliminary project definition may be to improve the appearance of stormwater assets in a particular location, instead of scoping out the activities that would be required to achieve this.

At a minimum, these characteristics and conditions should include the outcome or project:

- location(s)
- customers that would benefit from the discretionary expenditure
- estimated timeframes for delivery
- whether the project would be replacing an existing service.

7.3 Customers' willingness to pay

Claims for external benefits associated with higher-cost recycled water schemes, or for the broader customer base to fund discretionary expenditure, must be supported by evidence of customer willingness to pay. In assessing such claims, we will draw on best practice principles for measuring willingness to pay, such as those set out below.

You must show robust evidence of your customers' willingness to pay for the proposed discretionary outcome

Your proposal should provide evidence that any consultation on customers' WTP:

- Provides sufficient, clear and supporting context to allow respondents to make informed decisions.
- Is consistent with the characteristics and conditions of the proposed project or outcome in your pricing proposal, as defined above.
- Is expressed in terms of benefits that customers directly value.
- Presents dollar amounts consistent with the actual estimated cost of the project or outcomes outlined in the proposal. Customers should be made aware of the bill impact in the context of the customer's total bill including any other planned bill increases/decreases occurring as a result of price changes external to the discretionary expenditure.

You should provide evidence that survey results are statistically significant

Your proposal should demonstrate that your customer surveys are well designed and produced statistically significant results. You should present evidence that your surveys have the attributes of a well-designed survey, for example:

- A sufficient sample size that is representative of all demographics of the customer population that would pay for the discretionary expenditure via regulated prices under your proposal.
- Participants that are randomly sourced and screened to ensure all quotas for customer groups are represented and that no participants have a personal interest in your business or related organisations.

Box 7.1 Best practice principles for demonstrating willingness to pay using a contingent valuation approach to stated preference surveys

- *Participants are given the impression that their answers are consequential* and that they may be compelled to pay any amount they commit to in the survey. The payment mechanism by which people would financially contribute is specific and credible (eg, annual change in water or wastewater bills).
- *The non-market outcomes (external benefits) in the survey are expressed in terms of outcomes that people directly value* (eg, people should be asked about willingness to pay for the environmental improvements brought about by increases in water recycling, rather than for increases in water recycling in and of itself).
- *There is alignment between the external benefits being valued and the likely investment outcomes*. The survey should not reflect an overly optimistic view about what benefits the scheme would achieve, and major uncertainties made clear.
- *The information provided to participants is clear, relevant, easy to understand and objective*. For example, this can be tested with the use of focus groups and pilot surveys, consultation with stakeholders, and inclusion of appropriate maps and diagrams.
- *Participants are encouraged to consider the context of their decisions*, including the broader context of expected or proposed changes in prices for other services, as well as alternative approaches to achieving the external benefits.
- *The valuation questions require participants to make discrete choices* (such as 'yes/no' or selecting options), and include a 'no-answer' option to identify participants that are indifferent.
- *Follow-up questions are used to detect potential sources of bias*, such as cases where participants did not understand the valuation question(s) or the information provided.
- *The sample of people surveyed is representative of the broader customer base* and large enough to permit robust data analysis. The study should clearly set out how customers were selected for the survey, the number of participants and the response rate.
- *Estimates of average willingness to pay are supplemented with confidence intervals* to indicate the precision of the estimates.
- *Population-wide estimates of willingness to pay for external benefits are calculated in a transparent and appropriate way*. Potential reasons for non-response to the survey should be identified. Sensitivity analysis should be used to demonstrate how aggregate estimates change depending on assumptions about the values held by non-respondents and the extent of the population affected by the investment.
- *Survey questions are designed and analysed using appropriate statistical techniques.* For example, payment levels need to cover the likely range of amounts that customers might be willing to pay, no option should clearly dominate the others, and participants should not be burdened with too many choices.

Source: Based on Productivity Commission, *Environmental Policy Analysis: A Guide to Non-Market Valuation*, January 2014, pp 44-47.

7.4 Efficiency test for discretionary expenditure

We apply the same efficiency test for proposed discretionary expenditure as for expenditure on monopoly services. We assess if the proposed discretionary expenditure is the most efficient means of achieving the outcome or delivering the 'enhanced' service that the customers are willing to pay for. Where you propose multiple projects to achieve a single outcome, the portfolio of projects together should be the most efficient or optimum mix of projects to meet the outcome.

You should provide forecast expenditure for proposed discretionary projects

The information requirements for forecast capital and operating expenditure for discretionary projects are the same as for the mandated services outlined in Chapter 3. You must provide these separately for each proposed discretionary project.

In addition, you should provide details of:

- Grants or other funding from third parties, or Government, that will contribute to the costs of your proposed discretionary projects.
- Any avoided costs (see Chapter 6 for further information on estimating avoided costs).

You should provide actual expenditure for any previously approved discretionary projects

We also require you to provide information on any historical discretionary expenditure that was incurred in the previous determination period. Where you have historical discretionary expenditure, for each discretionary project you should provide:

- Actual expenditure over the previous determination period.
- Description of the characteristics and conditions of the project as it was delivered.

You should also provide information on the revenue collected for discretionary expenditure over the previous determination period, including a breakdown of which customer segments this was collected from and the charges levied on those customers.

7.5 Recovery and delivery incentives

You should indicate how you propose to recover the costs of discretionary expenditure from customers

For each discretionary expenditure project you propose, you should:

- Identify which customers you intend to recover the discretionary expenditure from.
- Provide the proposed discretionary expenditure charge, showing how it has been derived (for example, with reference to the efficient cost of providing the project).
- Demonstrate that the proposed charge is within the willingness to pay of the relevant customers, as evidenced by your willingness to pay surveys.

You should also provide information to allow for a separate RAB for discretionary expenditure, for example relevant asset lives.

7.6 Implementation and performance commitments

You should identify an output measure for each proposed discretionary expenditure project

To ensure transparency and accountability of the outcomes of discretionary expenditure, we require you to propose an output measure for each project that you can report against in the future. The delivery of your discretionary project should match your customers' understanding of what they are paying for, and the outcome should be delivered over the specified timeframe at an efficient cost.

You should report on output measures for discretionary expenditure in previous determination periods

Where you have carried out discretionary expenditure in the previous determination period, you must report against the output measures we set for you.

8 Additional considerations

8.1 Ring-fencing of costs and revenues of unregulated services

You should ring-fence the costs and revenues of supplying unregulated services

You need to separately identify and explain the costs and revenues of supplying any unregulated services. You should also identify and ring-fence any changes in costs resulting from unregulated price agreements.

Further, you should explain how you have allocated any common costs (such as corporate costs) between regulated services and unregulated services.

This is to ensure that customers pay no more than the efficient costs of supplying regulated services.

8.2 Finance and operating leases

8.2.1 Finance leases

In principle, we include the efficient value of the underlying finance lease asset(s) in the RAB. We include the efficient operating costs required to deliver the services associated with the assets in the opex allowance. Our policy on finance leases is available on our website.

8.2.2 Operating leases

The introduction of accounting standard AASB 16 (effective from 1 January 2019) removes accounting differences between operating and finance leases. This means that lessees must recognise operating leases (of a certain value and duration) as a 'right of use' asset and 'lease liability' on the balance sheet. In the income statement, lessees must recognise operating lease payments as depreciation of the asset and an interest charge on the liability (excluding the non-lease components of the lease contract).

However, for regulatory price-setting purposes we will continue to include operating leases in opex. This treatment is consistent with our pre-2019 approach and reflects the nature of the cash outflows and ownership related to such leasing arrangements.

You need to report the statutory accounting values for your operating leases in the SIR for purposes of the financeability test.

8.3 Outstanding issues from the previous pricing determination

You should address any outstanding issues from the previous price review

In the Final Report accompanying the last price determination, we may have identified some areas where you should undertake further analysis or follow-up action.

As part of your pricing submission for the upcoming determination, you need to explain how each of these outstanding issues has progressed and any conclusions or implications from your analysis. You should provide a summary of your analysis for each issue in an appendix to your pricing submission.

8.4 Determination length

You should propose the length of the determination period

In general, we consider the following factors when deciding on the length of the determination period:

- the confidence we can place in forecasts
- the risk of structural changes in the industry
- the need for price flexibility and incentives to increase efficiency
- the need for regulatory certainty and financial stability
- the term of the operating licence (where applicable)
- the costs of a price review
- the benefits of aligning the determination with the price determination of related utilities.

8.5 Other issues

You should include any other issues you consider relevant to your pricing submission, with supporting reasons and analysis

For example, these may include:

- Your preferred or alternative form of regulation, such as a weighted average price cap.
- Measures (and related information) to provide incentives for enhanced efficiency.
- Measures to manage risk (eg, associated with cost or revenue volatility).

Your pricing submission would need to clearly outline how your approach would work in practice and your rationale for this approach.

9 Quality assurance requirements and CEO's Declaration

Your pricing submission, information return and any other material you provide to us must be subject to a quality assurance check (QA) prior to submission.[25] This ensures information is complete, accurate and consistent and helps avoid errors or delays in the price review process.

You must include a CEO's Declaration in your pricing submission. This must be signed by the operational head of your agency.

Your CEO's Declaration shall certify the accuracy and consistency of all the data provided and be signed and dated by the head of your agency.

A pro-forma example of a CEO's declaration is attached.

Your QA check should confirm the following:

- **Information in your pricing submission is consistent** with the information return (AIR and SIR), your financial accounts, and reports against output measures, as relevant. **Where there are variations in figures, these need to be explained.**
- **Figures in your pricing submission are accurate and correctly sourced**. The figures need to sum correctly. Your use of nominal or real dollars should also be explained in clear and simple terms so that stakeholders can follow the logic of their use.
- **Your pricing submission addresses all the information we have requested** (such as in the SIP or the Issues Paper, these Guidelines, or in correspondence).
- **Your pricing submission includes proposed prices for all your regulated services**.

25 QAs of materials can be done either externally or by other parts of the agency that did not specifically work on the materials.

Chief Executive Officer's Declaration

In accordance with the *Guidelines for Water Agency Pricing Submissions*, November 2020 (the Guidelines), of the Independent Pricing and Regulatory Tribunal of New South Wales, I declare that:

a) The information provided in our pricing submission submitted on [insert date] is the best available information of the financial and operational affairs of [insert agency's name] and has been checked in accordance with the Guidelines; and

b) There are no circumstances of which I am aware that would render the information provided to be misleading or inaccurate.

Certified by the Chief Executive Officer:

Your CEO's Declaration shall certify the accuracy and consistency of all the data provided and be signed and dated by the head of your agency.

_____ _____

(Name of Chief Executive Officer) Dated