Queensland Competition Authority

Draft report

# Rural irrigation price review 2020–24
# Part A: Overview

**August 2019**

Level 27, 145 Ann Street, Brisbane Q 4000
GPO Box 2257, Brisbane Q 4001
Tel (07) 3222 0555
www.qca.org.au

# SUBMISSIONS

## Closing date for submissions: 4 November 2019

Public involvement is an important element of the decision-making processes of the Queensland Competition Authority (QCA). Therefore, submissions are invited from interested parties concerning its review of rural irrigation prices for 2020–24. The QCA will take account of all submissions received within the stated timeframes.

Submissions, comments or inquiries regarding this paper should be directed to:

Queensland Competition Authority
GPO Box 2257
Brisbane Q 4001

Tel (07) 3222 0555
Fax (07) 3222 0599
www.qca.org.au/submissions

## Confidentiality

In the interests of transparency and to promote informed discussion and consultation, the QCA intends to make all submissions publicly available. However, if a person making a submission believes that information in the submission is confidential, that person should claim confidentiality in respect of the document (or the relevant part of the document) at the time the submission is given to the QCA and state the basis for the confidentiality claim.

The assessment of confidentiality claims will be made by the QCA in accordance with the *Queensland Competition Authority Act 1997*, including an assessment of whether disclosure of the information would damage the person's commercial activities and considerations of the public interest.

Claims for confidentiality should be clearly noted on the front page of the submission. The relevant sections of the submission should also be marked as confidential, so that the remainder of the document can be made publicly available. It would also be appreciated if two versions of the submission (i.e. a complete version and another excising confidential information) could be provided.

A confidentiality claim template is available on request. We encourage stakeholders to use this template when making confidentiality claims. The confidentiality claim template provides guidance on the type of information that would assist our assessment of claims for confidentiality.

## Public access to submissions

Subject to any confidentiality constraints, submissions will be available for public inspection at our Brisbane office, or on our website at www.qca.org.au. If you experience any difficulty gaining access to documents please contact us on (07) 3222 0555.

# Contents

# EXECUTIVE SUMMARY

The Queensland Government has directed the Queensland Competition Authority to recommend prices for the supply of water for irrigation services by Sunwater and Seqwater in specified water supply schemes (WSSs) and distribution systems for the period 1 July 2020 to 30 June 2024.

This draft report is part of the second phase of our consultation process, following on from our initial consultation on the water businesses' regulatory submissions in late 2018 and early 2019. It sets out our draft recommendations on irrigation prices and explains how we have arrived at them.

The purpose of our draft report is to provide stakeholders with an opportunity to review and comment on our proposed approach and prices, prior to us finalising our report. We therefore encourage stakeholders to participate in our consultation on this report.

We intend to run workshops in regional Queensland in September 2019 and will be accepting submissions from stakeholders. We recognise that some Sunwater stakeholders have not had the opportunity to consider and comment on updated financial information provided by Sunwater in June 2019. We have encouraged Sunwater to be more timely in the provision of information for the remainder of this investigation and want to assure stakeholders that we will take their submissions on the updated information, and any other aspect of our draft report, into account in recommending final prices to the Government.

We would also like to thank all of the stakeholders who participated in our initial consultation process, including those that attended our workshops and made submissions.

## Scope of our review

Our review is limited to pricing for irrigation customers in the specified WSSs and distribution systems (excluding water services provided by Burnett Water Pty Ltd in relation to Paradise Dam and Kirar Weir), as the Government has only directed us to look at those prices. The structure and level of prices for non-irrigation customers in the specified WSSs and distribution systems are outside the scope of this review and are matters for Sunwater or Seqwater to negotiate with their customers.

## Approach

We must undertake our investigation and make recommendations in accordance with the relevant legal framework ('the pricing framework'), including the Minister's referral and the QCA Act. The pricing framework defines the scope of our investigation, directs us to provide recommendations on particular issues, provides guidance on the matters we must consider, and sets out the pricing principles we are to apply in calculating recommended prices. The pricing framework also impacts on the manner and extent to which we can address some issues that stakeholders raised. In some instances, we are therefore not the party best placed to address a particular issue (for example, the requirements in the referral limit our ability to rebalance tariff structures).

In recommending prices, we have emphasised the pricing principles set out in the referral, as these principles give effect to the Government's water pricing policy. One of the key tenets of that policy is that prices should increase gradually until they reach a cost-reflective level, where they recover the irrigation share of the scheme's operating, maintenance and capital renewal costs but do not recover a return on, or of, the scheme's initial asset base (as at 1 July 2000).

This report refers to this level of cost recovery, which underpins the pricing framework for our investigation, as 'the lower bound cost target'. It is important to note that while lower bound prices are

referred to as being 'cost-reflective', they still involve a subsidy from taxpayers, as the water businesses are not earning a return on, or recovering the initial investment in the existing assets.

The Government has previously indicated that in setting the lower bound cost target for irrigation water prices and establishing a gradual transition path to this level, it has considered a range of matters, including customers' capacity to pay and the historical regional development driver for many of the schemes.

## Draft prices

Our draft recommended prices and other charges, for the period 2020–24, are detailed in Chapters 7 and 8 of each of the business-specific reports (Part B and Part C). These prices are also outlined in scheme-specific information sheets.

As required in the referral, we have recommended two pricing options for those schemes with dam safety upgrade projects that are expected to be commissioned in the price path period. One set of prices excludes all dam safety upgrade capital expenditure (capex) and another includes an appropriate allowance for dam safety upgrade capex forecast to be incurred from 1 July 2020 onwards. We have also recommended two sets of prices for the Dawson Valley, Three Moon Creek and St George WSSs—one that maintains the existing tariff groups and one that applies alternative tariff groups. The decision about which sets of prices should apply is a matter for the Government when it determines prices for the price path period.

We have also sought to address scheme-specific pricing issues raised by stakeholders, including:

- Burdekin distribution system (Giru Benefited Area) (Part B, section 6.5)—we have proposed prices that transition to a cost-reflective price target for Giru Benefited Area customers that is the same as for Burdekin Channel tariff group customers, as we do not consider that the costs of supply differ materially between these two tariff groups
- Central Brisbane Rivers WSS (Part C, section 6.4)—while we welcome customers and the water businesses working together to reach agreement on pricing issues, we consider that the proposed cost allocation of zero is inappropriate and inconsistent with the requirements of the referral. However, we have recommended a fixed price that is lower than the prevailing fixed price, based on an improved approach to assigning benefits attributable to different customer groups.

We have developed our draft recommended prices using a two-step process. We first assessed the prudent and efficient (lower bound) cost base and calculated irrigation prices for each of the existing tariff groups based on this cost base. We then considered the matters required under section 26 of the QCA Act and the referral to develop our recommended prices.

### Lower bound prices

The lower bound prices in the draft report reflect our recommended apportionment of fixed and variable costs. We recognise that the allocation of costs between the fixed and volumetric components of prices involves a degree of subjectivity and judgement. Similar to our approach in the previous review, we allocated 20 per cent of direct operations and maintenance costs to the volumetric price. We consider this is simple and transparent and broadly reflects the underlying fixed and variable nature of the costs.

For those schemes where electricity costs are correlated with water usage, we have allocated base year electricity costs based on the fixed and variable nature of the underlying electricity tariff components. This reflects the reality that standard business tariffs typically now include capacity charges that water businesses are likely to incur when they operate their pumping stations, irrespective of water usage. For all other schemes, we have treated electricity costs as fixed, as they are not related to water usage.

We have reassessed the allocation of bulk WSS costs to customer priority groups, particularly in respect of Inspector-General for Emergency Management (IGEM) review costs, dam safety upgrade capex and insurance costs. We consider that each of these costs are asset-related rather than service-related, and as such we have allocated these costs using the headworks utilisation factor.

## Transition to lower bound prices

We have sought to recommend prices that transition gradually to lower bound costs, as this will give users sufficient time to adjust.

Our recommended fixed prices reflect the transitional path to the lower bound target outlined in the pricing principles in the referral. We have also generally assessed the appropriate level of any volumetric price increase with reference to the maximum level of annual real price increases that have occurred over the previous two price path periods of $2.38/ML of water access entitlement (WAE) ($2020–21).

We have separately assessed appropriate transition paths for two key categories of tariff groups:

- above lower bound costs—those tariff groups with existing prices that are already more than sufficient to recover the costs allowable under the terms of the referral
- below lower bound costs—those tariff groups with existing prices that are not yet sufficient to recover the costs allowable under the terms of the referral.

### Above lower bound prices

For those tariff groups with existing prices above lower bound costs, we have sought to transition prices to the lower bound cost target by maintaining fixed prices in nominal terms until this cost base is reached.

Where existing volumetric prices are above cost-reflective volumetric prices, we have reduced the existing volumetric price to the cost-reflective price immediately. Where volumetric prices are below cost-reflective volumetric prices, we have maintained the existing volumetric price in real terms until overall prices reach the lower bound cost target.

### Below lower bound prices

For those tariff groups with existing prices below lower bound costs, we have sought to transition fixed prices to the cost-reflective fixed price by the government's prescribed increase of $2.38/ML of WAE (plus inflation).

Where existing volumetric prices are above cost-reflective volumetric prices, we have reduced the existing volumetric price to the cost-reflective price immediately. We have generally recommended volumetric prices that fully recover relevant variable costs, with the exception of the following tariff groups where this would lead to a price increase well above the $2.38/ML of WAE (plus inflation) in previous price path periods:

- Barker Barambah WSS—Redgate Relift
- Burdekin distribution system—Giru Benefitted Area (GBA)
- Cedar Pocket WSS
- Maranoa River WSS
- Pie Creek distribution system.

For these tariff groups, we consider it appropriate to stage this change in approach over reasonable timeframes. We have therefore recommended that volumetric (Part B + Part D) prices increase by our estimate of inflation over the price path period.

While this results in volumetric prices that are lower than the cost-reflective level, we do not consider that the difference is significant. We consider that a lower than cost-reflective volumetric price will not have material implications on signalling efficient costs, noting that any price signals may also be tempered to some degree by the Government's pricing principles.

## Revenue and cost risks

The provision of irrigation services carry a number of risks that can have an impact on the water businesses or their customers. These risks manifest mainly as revenue risk (the risk that revenues received by the water businesses differ from prudent and efficient cost allowances) or cost risk (the risk of changes in prudent and efficient costs during the price path period).

We have assessed the key revenue and cost risks related to the provision of irrigation services and proposed approaches to addressing those risks within the pricing framework:

- We recommend dealing with revenue risks by maintaining existing tariff structures that closely align with the underlying cost structures of the water businesses.
- We recommend addressing cost risks by using within-period reviews or price adjustments (if the risk is material) or an end-of-period revenue adjustment (if the risk is not material).

## Approach to apportioning dam safety upgrade capex

Dams in Queensland have generally been built for the primary purpose of supplying water to users. In order to provide that service, the water businesses must comply with a range of regulatory obligations, including dam safety requirements. As dam safety upgrades are a compliance cost, we consider that dam safety upgrade capex should be treated as a normal cost of operation in supplying water services to customers, unless there is a clear and justifiable basis for allocating some of the costs to other parties.

Consistent with that approach, we consider that a dam's formal flood mitigation role should be recognised in allocating costs. Therefore, we propose that where a dam has such a role, the costs of dam safety upgrades should be shared with beneficiaries in the broader community. We also consider that the informal flood moderation benefits of dams should be reflected in the allocation of dam safety upgrade capex. We have exercised our judgment in determining the reduction to apply to the irrigation water users' allocation and consider that irrigators should only be allocated 80 per cent of their share of dam safety upgrade capex, with the remaining 20 per cent not included in the allowable cost base.

We have accepted the proposals by Sunwater and Seqwater that a regulatory asset base (RAB) approach is appropriate for calculating an appropriate allowance for the prudent and efficient capital expenditure on dam safety upgrades. We note that the impact on prices of including an appropriate dam safety upgrade capex allowance is limited in this price path period, so we have provided indicative longer-term pricing impacts for all dam safety upgrade projects commencing in this price path period (Chapter 4).

## Costs

We are required to recommend prices that seek to recover prudent and efficient costs and therefore we have assessed the operating expenditure, renewals expenditure and dam safety upgrade capex proposed by Sunwater and Seqwater for prudency and efficiency.

We have also determined a nominal post-tax weighted average cost of capital (WACC) of 4.74 per cent for deriving appropriate allowances for renewals expenditure and dam safety upgrade capex. We will update this WACC in our final report.

For Sunwater, our estimated total revenue requirement over 2020–24 of $355.0 million is $62.2 million (15 per cent) lower than Sunwater's proposed (November 2018) revenue requirement of $417.2 million.

The main sources of difference between our estimates and Sunwater's are our reductions to Sunwater's opex ($26.8 million) and renewals expenditure (which reduces the renewals annuity allowance by $35.4 million).

For Seqwater, we have taken our recent findings in relation to our 2018–21 Seqwater bulk water price review into account in assessing prudent and efficient expenditure. We also note that costs proposed by Seqwater are significantly lower than the level we accepted in our previous review.

## Draft recommendations

A summary of our draft recommendations is provided in Table 1.

**Table 1 Summary of draft recommendations**

| *Number* | *Draft recommendation* | *Chapter* |
|---|---|---|
| 1 | We recommend that short-term revenue risk be addressed through the use of a two-part tariff structure that closely aligns with the businesses' cost structure. | Chapter 3 |
| 2 | We recommend:<br>(a) the use of a within-period price review mechanism where:<br>(i) the water businesses or their customers consider there has been a material change in costs triggered by an unpredictable change in input markets, which they are unable to manage<br>(ii) the water businesses consider there has been a material change in costs triggered by a government impost or an unforeseen event, which they are unable to manage<br>(b) that any affected party should be able to apply for a within-period price review without a predefined review trigger<br>(c) the use of an end-of-period adjustment mechanism in cases where the change in cost is determined not to be material. | Chapter 3 |
| 3 | We recommend that only prudent and efficient dam safety upgrade capex that is required to meet dam safety obligations should be included in the dam safety upgrade cost category. | Chapter 4 |
| 4 | We recommend that dam safety upgrade capex:<br>(a) be treated as a normal cost of operation in supplying water services to users<br>(b) be allocated to water users unless there is a clear and justifiable basis for allocating some of the costs to other parties. | Chapter 4 |
| 5 | We recommend that where a dam provides a formal flood mitigation service:<br>(a) that service should be recognised in the allocation of costs, including dam safety upgrade costs<br>(b) the costs associated with that service should not be apportioned to irrigators and should instead be allocated to the beneficiaries of that service (where possible) or the broader community. | Chapter 4 |
| 6 | We recommend that while the primary purpose of dam safety upgrades is to reduce the risks of dam failure to tolerable levels (as determined by the relevant dam safety regulators), the informal flood moderation benefits for communities downstream of dams should be acknowledged in the allocation of dam safety upgrade capex. | Chapter 4 |
| 7 | We propose that, for dams that do not provide a formal flood mitigation service and are within the scope of this pricing review, dam safety upgrade capex should be:<br>(a) allocated using a general allocation ratio, with dam-specific allocation ratios only used where there is sufficient evidence of a material difference between the general allocation and the appropriate allocation for a particular dam<br>(b) the general allocation ratio for dam safety upgrade capex should allocate 80 per | Chapter 4 |

| *Number* | *Draft recommendation* | *Chapter* |
|---|---|---|
| | cent of the irrigation share of these costs to irrigation water users. The remaining 20 per cent should not be included in the allowable cost base for irrigation pricing purposes. | |
| 8–17 | See the Executive Summary in the Part B report for recommendations that specifically relate to Sunwater. | Part B, various chapters |
| 18–24 | See the Executive Summary in the Part C report for recommendations that specifically relate to Seqwater. | Part C, various chapters |

## Next steps

Public involvement is a key part of our decision-making process and we invite interested parties and stakeholders to comment on our draft report. Submissions are due by 4 November 2019.

We must provide our final report to the Government by 31 January 2020. The Government will then consider our recommendations when it sets prices for irrigation customers in the relevant WSSs and distribution systems.

The Government will decide irrigation prices after considering our final recommendations, which we must provide by 31 January 2020.

# THE ROLE OF THE QCA—TASK, TIMING AND CONTACTS

The Queensland Competition Authority (QCA) is an independent statutory body, which promotes competition as the basis for enhancing efficiency and growth in the Queensland economy.

The QCA's primary role is to ensure that monopoly businesses operating in Queensland, particularly in the provision of key infrastructure, do not abuse their market power through unfair pricing or restrictive access arrangements.

The QCA's primary role with respect to irrigation water pricing is to recommend prices to be charged by Sunwater and Seqwater to irrigation customers in specific water supply schemes and distribution systems. In recommending prices, we take into consideration the matters in section 26 of the Queensland Competition Authority Act 1997, inclusive of the terms set out in the Minister's referral notice (Appendix A).

## Key dates

| | |
|---|---|
| QCA publishes notice of investigation | 31 October 2018 |
| Initial stakeholder submissions identifying key issues to be considered in QCA review | 30 November 2018 |
| Lodgement of regulatory submissions by Sunwater and Seqwater | By 30 November 2018 |
| Draft report to the Queensland Government | By 31 August 2019 |
| Submissions due on draft report and Sunwater minimum access charge issues paper | 4 November 2019 |
| Final report to the Queensland Government | By 31 January 2020 |

## Contacts

Enquiries regarding this project should be directed to:

ATTN: Darren Page
Tel (07) 3222 0555
www.qca.org.au/Contact-us

# 1 OVERVIEW OF OUR APPROACH

*The Queensland Government has asked the Queensland Competition Authority to investigate the pricing practices for monopoly business activities of Sunwater and Seqwater (the water businesses) relating to the supply of water for irrigation services, in specified water supply schemes and distribution systems.*

*The key objective of this review is to recommend prices that the water businesses will be charging irrigation customers in the specified water supply schemes and distribution systems for the period 1 July 2020 to 30 June 2024.*

*In this chapter, we provide an overview of the principles guiding our review and our approach to calculating irrigation prices.*

## 1.1 Background

Sunwater and Seqwater provide water supply services to irrigation customers. They also provide services to a range of other customers, including water retailers, other industrial customers, local government and other holders of water allocations, referred to in this report as water access entitlements (WAEs).

The Department of Natural Resources, Mines and Energy (DNRME) is responsible for long-term water planning and determines the volume and reliability of water that can be released under WAEs. Customers, and in some circumstances the water businesses, own the WAEs.

During the previous review, we recommended price paths for irrigation customers for:

- 22 water supply schemes (WSSs) and 8 associated distribution systems operated by Sunwater, over the period 1 July 2012 to 30 June 2017 (the 2012 review)[1]
- 7 WSSs and 2 associated distribution systems operated by Seqwater, over the period 1 July 2013 to 30 June 2017 (the 2013 review)[2].

The Queensland Government (the Government) is responsible for setting prices for irrigation customers in the relevant WSSs and distribution systems and following our reviews, it set price paths that were consistent with our recommendations.

From 2017–18 to 2019–20, the Government extended these price paths by applying an increase of 2.5 per cent each year to all tariff groups. In addition to this increase, tariff groups below cost-reflective levels have increased by $2 per megalitre (in real terms[3]), which will continue until revenues consistent with cost-reflective prices are reached.

## 1.2 Referral

The referral notice for this investigation (the referral)[4] is set out in several parts:

- Part A asks us to investigate the pricing practices of the water businesses in relation to bulk water supply for irrigation services.

[1] QCA, *SunWater Irrigation Price Review: 2012–17*, final report, May 2012.
[2] QCA, *Seqwater Irrigation Price Review: 2013–17*, final report, April 2013.
[3] 2012–13 dollars for Sunwater schemes/systems, and 2013–14 dollars for Seqwater schemes/systems.
[4] See Appendix A for a copy of the referral.

- Part B sets out the matters regarding which we need to make recommendations. This includes:
  - appropriate prices for monopoly business activities relating to irrigation services provided by the water businesses over the price path period
  - appropriate price review triggers and other mechanisms, to manage the risks associated with material cost changes outside the control of the water businesses
  - two pricing options for dam safety upgrade capital expenditure (capex)
  - alternative tariff groupings for specified WSSs.
- Part C sets out the matters that we are to consider when conducting the investigation.
- Parts D, E and F set out requirements for consultation, timeframes for conducting the investigation, and other matters clarifying the prices to apply for bulk water supply for non-irrigation services, as well as the QCA's powers under the QCA Act.

The key objective of the review is to recommend prices for irrigation customers in the specified WSSs and distribution systems for the period 1 July 2020 to 30 June 2024 (the price path period). The Government will consider our recommendations when it sets those prices.

## 1.3 Irrigation services

We have been directed to investigate, and provide recommendations regarding, prices for the monopoly business activities of the water businesses to the extent that those activities are undertaken for irrigation services.

An irrigation service is defined in the referral as the supply of water or drainage services for irrigation of crops or pastures for commercial gain.[5] This terminology is different to that used in the previous reviews[6] and means that our recommended prices may potentially apply to a narrower range of irrigation customers compared to our previous reviews.

The structure and level of prices for non-irrigation customers in the specified WSSs and distribution systems are outside the scope of this investigation. The referral clarifies that nothing in the referral prevents the water businesses from negotiating full commercial prices to supply water to non-irrigation customers.

### 1.3.1 Local management arrangements

The Government has been looking at transitioning Sunwater's eight distribution systems to local management arrangements (LMA), where local irrigators would own and operate the systems.[7] We are not required to recommend prices for distribution systems that transfer to LMA before we release our draft report.[8] Consequently, we have not recommended prices for the St George, Theodore and Emerald distribution systems. While we have recommended prices for the Eton distribution system, that system is in the final stages of finalising the transfer terms. If

[5] Consistent with schedule 4 of the Water Act 2000.
[6] In the previous reviews, we were required to more broadly recommend 'irrigation prices to apply' to specified water supply schemes.
[7] DNRME, Local management arrangements for SunWater irrigation channels, 2019, https://dnrme.qld.gov.au/land-water/initiatives/lma-sunwater.
[8] Section 738N of the *Water Act 2000* states that irrigation services provided by a local irrigation entity is not a monopoly business activity for the purposes of the QCA Act.

agreement is reached on those terms and there is sufficient customer support, then this system may transfer before our final report is published.

We have also recommended prices for Sunwater's remaining distribution systems, as these are not transitioning to LMA.[9]

## 1.4 Key regulatory obligations

The water businesses must comply with a range of regulatory obligations when providing water services. (see Appendix E).

## 1.5 Our approach to the investigation and recommending prices

In conducting our investigation, we have considered the matters in section 26 of the QCA Act and the terms of the referral.[10] We have also considered all of the issues raised in stakeholder submissions.

In this part of the report (**Part A**), the guiding principles for this review and our broad approach to recommending prices are discussed:

- Chapter 2—provides an overview of the framework within which we must undertake our investigation and make recommendations regarding prices and other relevant matters. The chapter also includes a detailed discussion of the matters we are required to consider under the referral and section 26 of the QCA Act.
- Chapter 3—provides an outline of the key revenue and cost risks related to the provision of irrigation services and our proposed approaches to addressing those risks within the pricing framework.
- Chapter 4—outlines our proposed approach to apportioning dam safety upgrade capex.

In **Part B** (Sunwater) and **Part C** (Seqwater), our assessment of the proposed costs of each water business and some scheme-specific pricing issues, along with our recommended prices and proposed approach to bill moderation, are provided.

Figure 1 shows more detail on our approach to this investigation.

[9] The Bundaberg and Lower Mary distribution systems formally withdrew from the LMA process in 2017. The assessment of business case proposals for the Burdekin-Haughton and Mareeba-Dimbulah distribution systems was completed in March 2019, with the conclusion that the most viable option was for Sunwater to continue the operation of these systems.

[10] Section 26(3) states that sections 26(1) and (2) do not limit the matters to which the QCA may have regard in conducting an investigation. This would include the Minister's stated matters for consideration under section 24(1)(b).

**Figure 1 The QCA's approach to the review of irrigation prices from 1 July 2020 to 30 June 2024**

| | Step | Description | Relevant Section |
|---|---|---|---|
| 1 | Assess key aspects of the pricing framework | Provide an overview of the framework within which we must undertake our investigation. Consider the matters in section 26 of the QCA Act and the referral and determine which ones are relevant to this review. | Part A Chapter 2 |
| 2 | Examine the risks and operating environment of the businesses, and decide on appropriate regulatory arrangements | Recommend appropriate price review triggers and other mechanisms, to manage the risks associated with material cost changes outside the control of the businesses. | Part A Chapter 3 |
| 3 | Develop an appropriate approach for apportioning dam safety upgrade capex | Develop an appropriate approach for apportioning dam safety upgrade capital expenditure to irrigation customers. | Part A Chapters 4 |
| 4 | Establish revenue requirement at the scheme/system level | Assess cost components, such as the appropriate allowance for renewals expenditure, to establish revenue requirement for each scheme/system. | Part B, C Chapters 2–4 |
| 5 | Establish the forecast volume of water entitlements and usage | Determine volume of entitlements and usage for each tariff group to use as a basis for revenue allocation and calculating prices. | Part B, C Chapter 5 |
| 6 | Determine the structure of cost-reflective fixed and volumetric charges | Determine the allocation of revenue between fixed and volumetric charges across all tariff groups in the specified schemes/systems. | Part B, C Chapter 6–7 |
| 7 | Calculate recommend fixed and volumetric tariffs | Derive fixed tariff in accordance with government pricing principles. Consider less than cost-reflective volumetric tariff to moderate bill impacts. | Part B, C Chapter 7 |
| 8 | Calculate miscellaneous charges | Derive drainage charges, drain diversion charges, termination fees and water harvesting charges for relevant schemes/systems. | Part B, C Chapter 8 |
| 9 | Undertake customer bill analysis | Evaluate the impact of our pricing recommendations on irrigation customers. | Part B, C Chapter 9 |

## 1.6 Review process

We have consulted extensively with the water businesses and other stakeholders throughout this investigation. To facilitate this review, we have:

- published a guidance note that outlined our approach to considering the matters in the referral, consulting with stakeholders, and managing information gathering processes
- published a targeted consultation paper on dam safety upgrade capital expenditure
- invited submissions from interested parties on the dam safety consultation paper and on the cost submissions from the water businesses
- met with stakeholders across 15 workshops over January and February 2019 to outline our review process and discuss relevant issues
- published notes on issues arising from this consultation
- considered all submissions in preparing this draft report for comment.

We invite stakeholders to comment on this draft report. As shown in the indicative timetable below, submissions are due by 4 November 2019. We must provide a final report to the Government by 31 January 2020.

**Table 2 Timetable**

| *Task* | *Date* |
|---|---|
| Stakeholder workshops on the draft report take place | September–October 2019 |
| Submissions on the draft report are due | 4 November 2019 |
| The final report is provided to the Queensland Government | 31 January 2020 |
| The final report is published | Early February 2020 |

# 2 PRICING FRAMEWORK

*In this chapter, we provide an overview of the framework within which we must undertake our investigation, and make recommendations regarding prices and other relevant matters.*

## 2.1 Introduction

We must conduct our investigation and recommend prices in accordance with the relevant legal framework ('the pricing framework'). For this investigation, the key components of that framework are the referral and the QCA Act. The Water Act 2000 and the broader water planning and management framework are also important to the extent that they have an impact on pricing considerations (e.g., level of entitlements, reliability and service standards).

The pricing framework defines the scope of our investigation, directs us to provide recommendations on particular issues, and provides guidance on the matters we must consider. It also sets out the pricing principles we are to apply in calculating recommended prices. The pricing framework may, in some instances, also have an impact on the manner and extent to which we can address issues raised by stakeholders. For example, our ability to adjust the fixed component of prices is limited to a large extent by the pricing principles, as those principles clearly specify how we should adjust the total fixed price if it is above or below the cost reflective price. In such instances, we have explained those impacts and the consequences for our investigation and recommended prices.

The nature of the pricing framework also means that in some instances we are not the party best placed to address an issue raised by stakeholders. For example, as our investigation focuses on pricing, we are not best placed to address stakeholder concerns about the reliability and potential augmentation of water supplies. In those instances, we have sought to make recommendations that may facilitate the consideration and resolution of the issues by the party(s) best placed to address the issue.

## 2.2 Scope of our investigation

The Treasurer has referred only certain aspects of the monopoly business activities of the water businesses to us for an investigation about the pricing practices relating to those activities. The activities that have been referred are the storage and supply of water in specific water supply schemes (WSSs) and distribution systems, where those activities are undertaken for an irrigation service.[11]

Consequently, our investigation and recommendations are confined to pricing for irrigation customers in the specified WSSs and systems (excluding water services provided by Burnett Water Pty Ltd in relation to Paradise Dam and Kirar Weir[12]). The structure and level of prices for non-irrigation customers in the specified WSSs/systems, and for customers of the excluded Burnett Water services, are outside the scope of this review and are matters for Sunwater or Seqwater to negotiate with their customers.

The exclusion of non-irrigation customers in the specified WSSs/systems from the scope of our investigation reflects the Government's water pricing policy. Under that policy, which aligns

[11] An 'irrigation service' is defined in schedule 4 of the Water Act 2000 as 'the supply of water or drainage services for irrigation of crops or pastures for commercial gain'.

[12] Paragraph A(1.2) of the referral specifically excludes these services from the scope of our investigation.

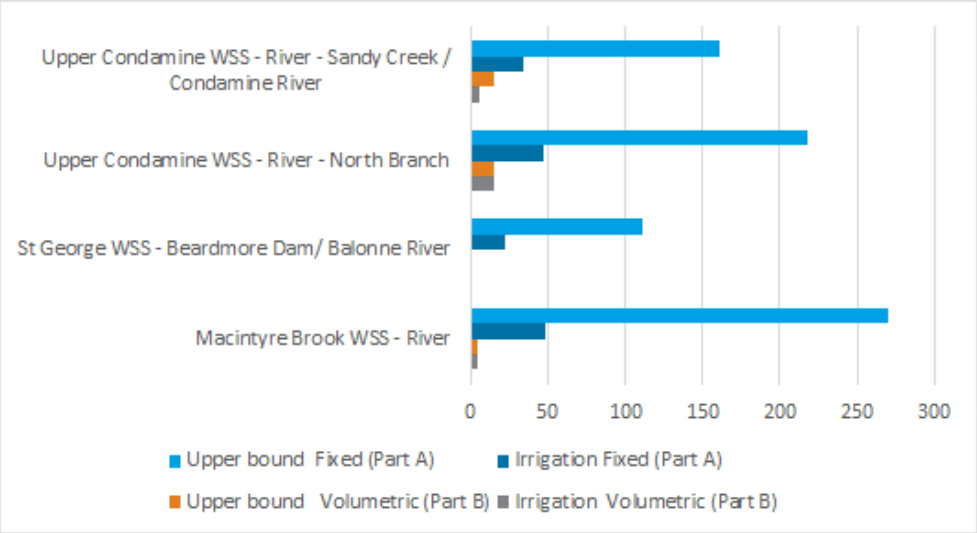
with its commitments under the National Water Initiative[13] (NWI), the Government applies different pricing frameworks and objectives to the two customer groups, with:

- prices for the irrigation customers in the specified WSSs/systems determined by the Government and expected to transition over time to prices that recover lower bound costs
- prices for other customers (for example, urban and industrial) in the specified WSSs/systems negotiated by the relevant water business with their customers and expected, where practicable, to transition over time to full commercial prices.

'Lower bound', as previously defined by the Government, are prices, for each WSS/distribution system, that recover the prudent and efficient costs of operating, maintaining, administering and renewing each scheme.[14] These costs exclude certain costs, such as a return on and of existing assets (as at 1 July 2000). In contrast, full commercial or 'upper bound' prices include the same costs as lower bound prices as well as a provision for the costs of capital. It is important to note that while lower bound prices are referred to as 'cost reflective', they still involve a subsidy from taxpayers, as the water businesses are neither earning a return on, nor recovering, the initial investment in the existing assets.[15]

Consistent with that water pricing policy, the Treasurer has clarified that nothing in the referral prevents the water businesses from 'negotiating full commercial prices to supply water' where the supply of that water is outside the scope of our investigation.[16] While commercial prices are not published for every scheme, Sunwater does publish some prices for schemes that fall within the Murray-Darling Basin. The figure below demonstrates the potential difference between the regulated prices that irrigation customers pay and the commercial prices that other customers pay for medium priority water in the same scheme.

**Figure 2 Sunwater's 2019–20 medium priority prices for selected WSSs ($/ML, nominal)**




*Source: Sunwater Fees & Charges Schedule 2019–20 (Macintyre Brook WSS, St George WSS and Upper Condamine WSS).*

[13] The National Water Initiative is an intergovernmental agreement between the Australian Government and state and territory governments on the reform of water planning and management, including water pricing.
[14] See for example, the Rural Water Pricing Direction Notice (No. 1) 2006.
[15] For more information on lower bound costs, see CAOG, *Intergovernmental Agreement on a* National Water Initiative, 2004, schedule B(i) and Productivity Commission, *National Water Reform*, inquiry report no. 17, 2017, chapter 7.
[16] See paragraph F(1.1) of the referral.

The different pricing approaches for the two customer groups do not mean that one group of customers is cross-subsidising the other group. Irrigation customers are allocated their share of costs, and where the irrigation price is lower than the Government's lower bound costs, the Government provides a community service obligation (CSO) payment to cover the shortfall.

Some stakeholders have raised concerns about the structure and level of prices—particularly in relation to dam safety upgrade capital expenditure (dam safety upgrade capex)—for customers in WSSs outside of the schemes/systems specified in schedule 1 of the referral. However, consistent with the referral, these issues are outside the scope of this review and are matters for the relevant dam owner and/or operator to negotiate with their customers.

## 2.3 Matters we are required to consider in undertaking our investigation

We are required to consider the matters listed in section 26 of the QCA Act in undertaking our investigation. These matters include:

- the need for efficient resource allocation
- the protection of consumers from abuses of monopoly power
- the cost of providing the goods or services in an efficient way, having regard to relevant interstate and international benchmarks, the actual cost of providing the goods or services, and the standard of the goods or services
- social welfare and equity considerations including community service obligations, the availability of goods and services to consumers and the social impact of pricing practices
- economic and regional development issues, including employment and investment growth
- water pricing determinations.

This list is not exhaustive; we may have regard to any other matters that we consider relevant in undertaking our investigation.[17]

Under section 24 of the QCA Act, we are also required to consider any matters that we have been directed to consider by the Treasurer. For this investigation, the Treasurer has directed us to consider various matters, including:

- the pricing principles in schedule 2 of the referral
- certain matters in relation to determining costs and recommending appropriate prices (for example, the costs that can be included)
- balancing the legitimate commercial interests of the water businesses with the interests of their customers, including considering less than cost-reflective volumetric prices, which are necessary to moderate bill impacts for customers
- ensuring, where possible, that revenue and pricing outcomes are both simple and transparent for customers.

## 2.4 Approach

The matters we are required to consider in undertaking an investigation are diverse and may at times require us to make judgements about the relative importance of matters in particular

[17] Section 26(3) of the QCA Act.

circumstances. For example, requirement to consider social welfare and equity considerations may need to be balanced with the requirement to meet certain cost objectives.

Unfortunately, by their very nature, regulatory tools are often limited in their ability to achieve multiple objectives, and the pricing framework for this review is no different. The QCA Act does not provide guidance on the weightings that should be applied to each matter. Consequently, we need to have regard to the matters and determine which ones are relevant to our investigation. In the context of this investigation, we have considered all of the matters we are required to under section 26 and the referral and, where relevant, we have had regard to those matters.

Once we have determined which of the matters are relevant to our investigation, we then need to decide the relative emphasis to be given to those matters. While exercising a degree of judgement on this, we have considered all of the issues raised in submissions in deciding the relative importance to be given to the relevant matters. Our consideration of these issues in our draft report reflects what we consider to be an appropriate balancing of the relevant matters.

## 2.5 Stakeholders' submissions

Many stakeholders indicated that certain matters in section 26 and the referral were relevant to our investigation. Those matters include:

- regional and economic development—some stakeholders were concerned about the impact of higher prices on irrigators' businesses, local communities and the regional economy
- social welfare—some stakeholders were concerned about the social impact that higher prices may have on local communities
- equity considerations—some stakeholders considered the following issues as not equitable:
  - the Government's previous and potential changes to the pricing framework (in particular, moving to base prices on lower bound costs and the possible inclusion of a share of an appropriate allowance for dam safety upgrade capex in prices); stakeholders said that irrigators had made investments based on a different pricing framework.
  - the potential inclusion of an appropriate allowance for dam safety upgrade capex incurred from 1 July 2020; stakeholders said the dam safety upgrade capex for some schemes had previously been covered by the Government
- balancing the legitimate commercial interests of the water businesses with those of their customers—some irrigation stakeholders considered that their ability to pay should be a relevant consideration in balancing those interests
- the pricing principles in schedule 2 of the referral—some stakeholders considered that the pricing principles in schedule 2 of the referral were not equitable.

## 2.6 Relevant matters for this investigation

After considering the required matters in section 26 and the referral and the issues raised by stakeholders in submissions, we are of the view that the following matters are particularly relevant in the context of our investigation:

- the pricing principles in the referral
- the efficient use of resources and the protection of consumers from monopoly power
- revenue adequacy

- social welfare and equity considerations including community service obligations, the availability of goods and services to consumers and the social impact of pricing practices
- economic and regional development issues, including employment and investment growth
- balancing the legitimate commercial interests of the businesses with the interests of their customers
- ensuring, where possible, that revenue and pricing outcomes are both simple and transparent for customers.

### 2.6.1 Pricing principles in the referral

In 2000, the Government established a lower bound cost recovery target for irrigation prices in existing irrigation schemes, which it considered was the minimum level of cost recovery for a water business to be viable.[18] As noted in section 2.2, this target remains government policy and prices are expected to transition to it over time.

The pricing principles in the referral give effect to this longer-term government policy objective and include:

- Prices are to be based on all tariff groups transitioning to cost-reflective prices.[19]
- In considering tariff structures, regard should be had to the fixed and variable nature of the underlying costs.[20]
- Fixed prices (Part A and Part C) are to be derived independently of volumetric prices (Part B and Part D).[21]
- In calculating the bulk fixed price (Part A) and the total fixed price (Part A plus Part C) for each tariff group:
  - if the total fixed price for 2019–20 is above the total cost reflective price for 2020–21, the total fixed price should be maintained in nominal terms over the price path period until the cost reflective price is reached.[22]
  - -f the total fixed price for 2019–20 is below the cost-reflective price for 2020-21, the total fixed price should increase by inflation plus $2.38 (to be adjusted for inflation on an annual basis) per mega litre from 2020–21 until the cost reflective price is reached.[23]
- Volumetric prices should have regard to moving to cost-reflective immediately.[24]
- Adopting the current tariff groups for all WSSs and distribution systems—except for the Dawson Valley, Three Moon Creek and St George WSSs, for which we have been asked to recommend two sets of prices (one that maintains the existing tariff groups and one the applies alternative tariff groups).[25]

[18] Queensland Treasury and Department of Energy and Water Supply, submission to the Australian Competition and Consumer Commission, *Review of Water Charge Rules*, *draft advice*, March 2016, p. 6.
[19] Schedule 2, paragraph A of the referral. The cost-reflective price for each WSS/distribution system is the price that recovers lower bound costs—see section 2.2 in this chapter.
[20] Schedule 2, paragraph B of the referral.
[21] Schedule 2, paragraph C of the referral.
[22] Schedule 2, paragraphs D and E of the referral.
[23] Schedule 2, paragraphs D and E of the referral.
[24] Schedule 2, paragraph E of the referral.
[25] Paragraph B(1.4) and schedule 3 of the referral.

### Stakeholders' submissions

Many irrigation stakeholders raised concerns about the Government's pricing principles (in particular, the requirement for prices for all tariff groups to transition over time to lower bound costs[26]) and the impact that higher prices may have on individual irrigators and/or the longer-term viability of some water supply schemes and distribution systems.[27] The QFF also recommended that the QCA review the implications of long-term transition pricing and high fixed charges, and questioned whether the cost-reflective target was appropriate for schemes with significant water availability problems or very high costs relative to the customer base.[28]

Canegrowers Isis considered this underlying premise was flawed as the scheme was never intended to be a stand-alone commercial venture and would not have been constructed if the current pricing methodology was in place. It also considered that 'modify bill impacts' translated to capacity to pay over the price period, and that its consultant's report showed that irrigators did not have the capacity to absorb further price increases.[29]

PV Water indicated that the Teemburra Dam project only proceeded after the Government provided indicative subsidised pricing that encouraged irrigators to take up allocations and make significant investments in on-farm irrigation infrastructure. It considered that irrigators had a reasonable expectation that the subsidised pricing would continue and the move to the government-defined level of cost recovery conflicted with those expectations and with the original design premise of the Teemburra Dam.[30]

Some stakeholders considered that the price caps contained in the pricing principles should be adjusted. Canegrowers and the Mareeba Dimbulah Irrigation Area Council (MDIAC) proposed that the annual price cap of $2.38 per megalitre plus CPI should apply to the combined fixed and volumetric water price increases (Parts A and B combined for bulk customers and Parts A, B, C and D combined for distribution system customers).[31] The Burdekin River Irrigators Association (BRIA) indicated that the application of the annual price cap of $2.38 per megalitre would have an adverse impact on irrigator viability. It proposed that the annual increases in the combined fixed and volumetric water prices should be no more than CPI during the next price path.[32]

Central Downs Irrigators Ltd was concerned that medium priority users in the Upper Condamine WSS were paying 190 per cent of cost recovery for the Part A prices and might potentially be faced with a significant increase in Part B prices if volumetric prices were to transition to being cost-reflective immediately. It considered that there should be better recognition of the overrecovery of fixed costs in Sunwater's accounting and the annuity fund. It also asked that the QCA cap the increases in charges in a similar manner offered to other schemes operating below cost recovery for Part A charges.[33]

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[26] See for example, PV Water, sub. 130; Werner, J, sub. 146; Canegrowers Isis, sub. 93.
[27] See for example, Invicta Cane Growers Organisation, sub. 64 and 109; Kookaburra Farms, sub. 114; WBBROC, sub. 149; Bundaberg Fruit and Vegetable Growers, sub. 86; Kinchant Dam Water Users Association, sub. 112; Scocan Holdings, sub. 135; Three Moon Creek Irrigator Advisory Committee (IAC), sub. 142.
[28] QFF, sub. 131 and 132.
[29] Canegrowers Isis, sub. 93.
[30] PV Water, sub. 130.
[31] Canegrowers, sub. 91; MDIAC, sub. 70 and 123.
[32] BRIA, sub. 84 and 85.
[33] Central Downs Irrigators, sub. 98.

### QCA assessment

Rising costs and the transition over time to prices that recover lower bound costs are key concerns for many stakeholders. Some stakeholders are also concerned about the appropriateness of transitioning to prices that reflect lower bound costs given that some of the specified WSSs/systems may not have been built with cost-reflective prices in mind.

However, the lower bound cost target is a key tenet of the Government's water pricing policy, and this principle underpins the pricing framework for our investigation. As such, we consider that our recommended prices must be consistent with that principle and the pricing principles outlined in the referral more generally.

While historical pricing policies may be a relevant consideration, those policies are not binding on successive governments in perpetuity, even though their cessation may have an adverse impact on a particular customer or group of customers. Governments are elected with a mandate to set, modify or replace policies on a broad range of issues, including water pricing. The shift in water pricing policy that has taken place since the specified schemes and systems were constructed reflects that reality.

The Government has indicated that, in setting the lower bound cost target for irrigation water prices and establishing a gradual transition path to that target, it has considered a range of matters, including customers' capacity to pay.[34] Consequently, the price target for irrigators is lower than that for other customers (for example, urban and industrial customers) in the specified schemes/systems, with other customers expected, where practicable, to transition over time to full commercial prices. For example, the irrigation price targets for the Upper Condamine—Sandy Creek or Condamine River tariff group are $17.51 (Part A) and $5.44 (Part B) but Sunwater's 2019–20 upper bound prices for supplying other customers in the same area are $161.04 (Part A) and $15.19 (Part B).[35]

Given the requirement to set recommended prices consistent with the pricing principles in the referral and that the Government has considered the issue of capacity to pay in setting its transition path, we do not consider it is appropriate to reduce the cap on fixed prices to a level below that set out in the referral. The referral, however, does provide us with scope to consider less than cost-reflective volumetric prices where necessary to moderate bill impacts.

As discussed above, one of the key objectives underpinning the pricing framework for our investigation is for prices to transition to reflect lower bound costs over time. The Government has set this objective based on its consideration of a range of issues, including customers' capacity to pay. Given that, it is our view that capacity to pay has been taken into account in the design of the pricing framework and through our application of the pricing principles in the referral. Moderating bill impacts therefore involves staging any price increases required to meet the lower bound cost objective in a manner that allows users sufficient time to adjust.

The application of the Government's pricing principles also limits our capacity to use the pricing framework to address stakeholder concerns about:

[34] Queensland Treasury and Department of Energy and Water Supply, submission to the ACCC, *Review of the Water Charge Rules*, *draft advice*, March 2016, pp. 5–7; Queensland Government, submission to the Productivity Commission, *National Water Reform*, *issues paper*, March 2017, p. 7; Queensland Government, Seqwater and Sunwater irrigation pricing overview, https://www.business.qld.gov.au/industries/mining-energy-water/water/industry-infrastructure/pricing/irrigation.

[35] Sunwater, *Fees & Charges Schedule 2019-20 for Upper Condamine WSS*, 2019.

- schemes with a Part A price that is well above the cost-reflective price (for example, the Upper Condamine WSS)[36]
- schemes with consistently low reliability (in particular, the Central Lockyer Valley and Lower Lockyer Valley WSSs)[37]
- high-cost schemes such as the Eton and Cedar Pocket WSSs and the Pie Creek distribution system.[38]

While we understand stakeholders' concern over the requirement in the referral for Part A prices that are above the cost-reflective price for 2020–21 to be maintained in nominal terms over the price period, this approach is government policy. The pricing principles, while preventing us from reducing the Part A price, do not prevent the water businesses from returning the surplus revenue above the cost target to the relevant schemes. Indeed, Seqwater has proposed such an arrangement for the three schemes that it expects to be above the cost target during the price period, with the gap between actual revenue collected and cost-reflective revenue to be credited to the renewals annuity account in each scheme.[39] We would encourage Sunwater to consider proposing a similar arrangement for its irrigation customers in the Upper Condamine WSS.

While we acknowledge the concerns raised by customers in schemes with consistently low reliability, we do not consider that this issue is best addressed through adjusting the prices for these schemes.[40] Aside from potentially being inconsistent with the pricing principles outlined in the referral, rebalancing the fixed and variable components may mask the underlying problems in these schemes and delay the timely consideration and resolution of those problems.

We note that the Government is currently working with irrigators in the Central Lockyer Valley and Lower Lockyer Valley WSSs to investigate potential options to address the reliability issues in those schemes. We encourage both parties to continue those investigations.

We understand the concerns of stakeholders in the Eton WSS regarding the high cost nature of that scheme and the transition to the Government's lower bound price target, and their view that irrigation customers in this scheme have limited scope to transition to alternative, more commercially viable crops due to the local climate and growing conditions. We also acknowledge the request on the part of the Canegrowers Mackay and Kinchant Dam Water Users Association that we consider an exit strategy for customers in this scheme.[41]

In theory, the market for trading water entitlements should provide irrigators with an effective exit strategy, as it allows water allocation holders to permanently sell their water without having to sell their land as well. However, we note that, in reality, this market is generally quite

[36] Central Downs Irrigators, sub. 98.
[37] Barden Produce, sub. 82; Lockyer Water Users Forum, sub. 116; Lockyer Valley Regional Council, sub. 117; Mayor of Lockyer Valley Regional Council, sub. 121; Member for Lockyer, sub. 125; QFF, sub. 131; Gold Finch Lawns, sub. 61; Somerset Regional Council, sub. 76.
[38] Kinchant Dam Water Users Association, sub. 112; Canegrowers Mackay, sub. 96; Kookaburra Farms, sub. 114.
[39] Seqwater, sub. 1.
[40] Barden Produce, sub. 82; Lockyer Water Users Forum, sub. 116; Lockyer Valley Regional Council, sub. 117; Mayor of Lockyer Valley Regional Council, sub. 121; Member for Lockyer, sub. 125; QFF, sub. 131; Gold Finch Lawns, sub. 61; Somerset Regional Council, sub. 76.
[41] Kinchant Dam Water Users Association, sub. 112; Canegrowers Mackay, sub. 96.

illiquid in the Eton WSS and this may limit the utility of this option for some irrigators seeking to exit schemes.[42]

Under section 162 of the Water Act 2000, irrigators can also surrender their water allocations, but this surrender is contingent on consent of the holder of the licence, which may be given with or without conditions. Given those constraints, it is possible that this option may also be of limited utility for some stakeholders seeking to exit schemes.

This means that some irrigators may potentially be unable to exit a scheme even though the transition to prices that reflect lower bound costs may make it unviable for them to irrigate. The potentially 'locked in' nature of some water allocations may also reduce the incentive that the relevant water business has to address the concerns about the high-costs and longer-term viability of a scheme in a timely manner. It also allocates a substantial proportion of the risk associated with the longer-term performance of a scheme to its customers, even though the water business (and its owner) may be better placed to manage some of this risk.

We would therefore encourage the Government to explore whether it may be appropriate to introduce a mechanism for irrigation customers in the specified schemes/systems to surrender their water allocations to the water business. It is not intended that surrendered water allocations would be cancelled under this approach. Instead, they would be held by the relevant water business, who would incur the costs associated with those allocations.

### 2.6.2 The efficient use of resources and the protection of consumers from monopoly power

Economic efficiency is usually considered in three contexts:

- allocative efficiency—requires allocating scarce resources to their most highly valued uses
- productive efficiency—requires that output is produced at minimum cost
- dynamic efficiency—the achievement of allocative and productive efficiency over time, including the timely and profitable introduction of new processes, systems and services.

These efficiency objectives are generally achieved where prices are:

- cost-reflective—that is, they reflect the fixed costs of providing the service at a specified standard (including a return on capital invested) and the marginal cost of producing each additional unit
- forward-looking— that is, they represent the least-cost way of providing the requisite level of service over the relevant planning period.

In other pricing investigations, unless otherwise directed by the Government, we have treated economic efficiency as the primary objective of economic regulation. This reflects the interpretation that economic efficiency represents the overall public interest under the assumption that social concerns are being addressed by other government policies and activities.[43]

#### Stakeholders' submissions

No stakeholder comments on this issue were received.

[42] Permanent water trading data for the Eton WSS and other water schemes is available at https://www.business.qld.gov.au/industries/mining-energy-water/water/water-markets/market-information#permanent.

[43] QCA, *Statement of Regulatory Pricing Principles*, August 2013.

#### QCA assessment

Prices that reflect prudent and efficient costs are transparent and help to signal the efficient cost of providing water supply services to irrigation customers. This in turn may help to encourage efficient consumption and investment decisions. Recommending prices to reflect prudent and efficient costs also helps to protect consumers from abuses of monopoly power.

However, as discussed above, we consider that the recommended prices must be consistent with the pricing principles in the referral, given that the lower bound cost target is a key tenet of the Government's water pricing policy. In regards to efficiency, the pricing principles do limit to some extent our ability to recommend prices that reflect prudent and efficient costs. For example, the principles limit the costs that can be recovered and also provide a transition path for recovering the allowable costs through prices.

Consequently, we have had regard to economic efficiency matters subject to the constraints imposed by the pricing principles in the referral.

### 2.6.3 Revenue adequacy

Revenue adequacy or sufficiency requires that a regulated business should earn sufficient revenue to cover its prudent and efficient costs and enable it to invest in asset maintenance and expansion.

#### Stakeholders' submissions

No stakeholder comments on this issue were received.

#### QCA assessment

In general, revenue adequacy (cost recovery) is a key principle underlying any pricing framework, requiring that a regulated business achieves sufficient revenue to ensure the efficient delivery of water services and the ability to invest in asset maintenance and expansion. Recommending prices consistent with the revenue adequacy principle also limits the ability of the regulated business to generate monopoly profits, thereby helping to protect its customers.

However, in the context of this pricing investigation, the revenue adequacy considerations are tempered by the Government's pricing principles in the referral. Those principles limit the costs that can be included in prices (see section 2.2) and provide a transition path for recovering the allowable costs through prices.

We consider that the recommended prices must be consistent with the pricing principles in the referral, given that the lower bound cost target is a key tenet of the Government's water pricing policy. Consequently, we have taken revenue sufficiency into account, subject to the constraints imposed by the pricing principles in the referral.

The Government has also taken revenue adequacy into account to some extent in its irrigation water pricing policy by providing a community service obligation payment to the relevant water business to cover the difference between the revenue recovered through regulated prices and the revenue that would be recovered under the lower bound cost recovery target.

### 2.6.4 Social welfare and equity considerations

In the irrigation context, as distinct from the urban water supply context, social welfare and equity issues mainly relate to the ongoing viability of typical family farm enterprises, and the communities that are built around them. The concept of equity may also incorporate the intertemporal stability of the underlying signals for investment in irrigation enterprises.

### Stakeholders' submissions

Some stakeholders considered that the Government's previous and potential changes to the pricing framework (in particular, moving to base prices on lower bound costs and the possible inclusion of a share of dam safety upgrade capex in prices) were not equitable, as irrigators had made investments based on a different pricing framework.

Many irrigation stakeholders considered that it was not equitable to include a share of dam safety upgrade capital expenditure in prices, based on the following:

- Irrigators have, in the absence of a formal direction from the Government, assumed that these costs would not be included in prices, and they have made investment decisions based on that assumption.
- Customers in affected schemes will be disadvantaged, relative to customers in schemes where the Government has paid for the upgrade.

A number of stakeholders in the Barker Barambah WSS also requested that consideration be given to the fact that the region is one of the most stressed socio-economic regions in the country and is currently drought-declared.[44]

### QCA assessment

Equity is an inherently subjective concept and an ‘equitable’ pricing structure is likely to be interpreted differently by different stakeholders. Relevant issues are the management of potential price shocks for customers, effects of pricing policies on vulnerable groups, and implications of subsidies and cross-subsidies.

For example, the 'user pays' principle of cost recovery may be considered to be equitable, as the user of a service, or an individual that causes costs to be incurred, pays the relevant costs. However, others may view this principle as not being equitable, as it does not take into account the ability of disadvantaged customers to pay cost-reflective prices.

Some stakeholders are concerned about the appropriateness of transitioning to prices that reflect lower bound costs, given that some of the specified schemes/systems may not have been built with cost-reflective prices in mind.

However, the lower bound cost target has, since the 2004 Intergovernmental Agreement on a NWI, been a key tenet of the Government's water pricing policy, and this principle underpins the pricing framework for our investigation. As such, we consider that our recommended prices must be consistent with that principle and the pricing principles outlined in the referral more generally.

While historical pricing policies may be a relevant consideration, those policies are not binding on successive governments in perpetuity, even though their cessation may adversely impact on a particular customer or group of customers. Governments are elected with a mandate to set, modify or replace policies on a broad range of issues, including water pricing. The alignment of water pricing policy to lower bound cost reflectivity (or in some cases slightly above) has been a part of Government policy for some 20 years. The lower bound pricing policy was initially conceived in recognition that many rural water supply schemes would not be viable at fully commercial prices.

[44] Barker Barambah IAC, sub. 83; Burnett Inland Development Organisation, sub. 90; GKM Cooney, sub. 106; Hetherington Farming, sub. 107; Mayne, A and C, sub. 120; Nicholson, S, sub. 126; Preema Partnership, sub. 129; S&J Reeves Enterprises, sub. 134; Silverleaf Farming, sub. 137; Weier Farming, sub. 145.

The broad pricing policy is therefore known to the irrigation sector and provides certainty for irrigators in their investment decisions. Notwithstanding this, over time, lower bound costs have been subject to variations in operating and renewals costs, and the economic circumstances of individual schemes/systems have changed.

We note that the Government has indicated that, in setting the lower bound cost target for irrigation water prices and establishing a gradual transition path to that target, it has specifically considered a range of matters, including customers' capacity to pay and the historical regional development driver for many of the schemes.[45] Consequently, the price target for irrigators is lower than that for other customers (for example, urban and industrial customers) in the specified schemes/systems, with other customers expected, where practicable, to transition over time to full commercial prices.

We are required to develop and apply an appropriate approach to apportioning dam safety upgrade capex as part of this review (see Chapter 4). However, the decision regarding which set of prices is to apply is a matter for the Government when it determines prices for the pricing period. Given that the equity concerns raised by stakeholders primarily relate to that decision, we consider that the Government is best placed to take these equity considerations into account.

In relation to schemes impacted by drought, we consider that any relief from Part A charges during a drought is a matter more appropriately determined by the Queensland Government. Drought assistance provided by the Queensland and Australian governments generally encompasses a range of measures and any relief from Part A charges needs to be considered in that context.

### 2.6.5 Economic and regional development issues

In many cases, irrigation schemes represent a significant source of income and employment on a regional or local area basis, and may provide a key stimulus for other investments into the regions. It is therefore appropriate that the irrigation pricing framework facilitates the best use of a region's resources and provides certainty and stability for investment decisions.

#### Stakeholders' submissions

Irrigation and local government stakeholders raised concerns about the impact that higher prices and the longer-term shift to prices that recover lower bound costs will have on irrigators, the regional economy and local communities.[46]

QFF and other stakeholders argued that there should be assessments of the cumulative impacts where customers are trying to cope with other increasing costs on farm such as electricity. They

[45] Queensland Treasury and Department of Energy and Water Supply, submission to the ACCC, *Review of the Water Charge Rules, draft advice*, March 2016, pp. 5–7; Queensland Government, submission to the Productivity Commission, *National Water Reform, issues paper*, March 2017, p. 7; Queensland Government, Seqwater and Sunwater irrigation pricing, https://www.business.qld.gov.au/industries/mining-energy-water/water/industry-infrastructure/pricing/irrigation.

[46] See for example, QFF sub. 131 and 132; LGAQ, sub. 115; WBBROC, sub. 149; Barker Barambah IAC, sub. 83; GKM Cooney, sub. 106; S Nicholson, sub. 126; Bundaberg Fruit & Vegetable Growers, sub. 86; Bundaberg Regional Council, sub. 87; Canegrowers Isis, sub. 93; Isis Central Sugar Mill, sub. 110; BRIA, sub. 85; Invicta Cane Growers Organisation, sub. 109; Kalamia Cane Growers, sub. 111; Kinchant Dam Water Users Association, sub. 112; Canegrowers Mackay, sub. 96; Scocan Holdings, sub. 135; MDIAC, sub. 123; Central Highlands Cotton Growers and Irrigators Association, sub. 99; Nogoa-Mackenzie IAC, sub. 127; Fairbairn Irrigation Network, sub. 104; PV Water, sub. 130; Werner, J, sub. 146; Canegrowers Proserpine, sub. 97; Three Moon Creek IAC, sub. 142; Central Downs Irrigators, sub. 98.

considered that the cost impacts would have flow-on impacts for local and regional economies that need to be investigated.[47]

Wide Bay Burnett Regional Organisation of Councils (WBBROC) indicated that pricing needed to consider customers' capacity to pay and contingent public interest at local, regional and state economy perspectives. In its view, an economic impact risk assessment should be conducted as part of the review to explore structural economic impacts at regional scale.[48]

#### QCA assessment

We consider that economic and regional development issues are a relevant matter for our pricing investigation and have been taken into account in the pricing framework. Specifically, the pricing principles in the referral reflect the Government's water pricing policy. A key tenet of that policy is the lower bound cost target, which underpins the pricing principles in the referral.

The Government has indicated that its lower bound target for cost recovery is based on, among other matters, a consideration of customers' capacity to pay and the benefits/costs arising from a subsidy targeting a particular sector or purpose.[49] The Government has also indicated that its water pricing policy has taken into account considerations such as transition paths for pricing for irrigation customers, regional development and the benefits of industry to the Queensland economy.[50] As we noted above, the consequence of the Government's policies is that the long-term cost recovery target for irrigation customers is generally lower than the long-term cost recovery for other customers in the specified schemes/systems.

Given that we have set recommended prices consistent with that principle and the pricing principles outlined in the referral more generally, we consider that economic and regional development matters have been taking into account in our pricing investigation.

### 2.6.6 Balancing interests

We are required to consider balancing the legitimate commercial interests of the water businesses with the interests of their customers, including considering less than cost- reflective volumetric prices, which are necessary to moderate bill impacts for customers.

#### Stakeholders' submissions

Some irrigation stakeholders considered that their ability to pay should be a relevant consideration in balancing those interests. For example, Canegrowers Isis considered that 'modify bill impacts' translated to capacity to pay over the price period, and as shown by its consultant, irrigators did not have the capacity to absorb further price increases.[51]

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[47] QFF, sub. 131 and 132. These submissions were supported by a number of other stakeholders including Bundaberg Fruit & Vegetable Growers, sub. 86; Canegrowers Burdekin, sub. 92; and Cotton Australia, sub. 102.

[48] WBBROC, sub. 149.

[49] Queensland Treasury and Department of Energy and Water Supply, submission to the ACCC, *Review of the Water Charge Rules, draft advice*, March 2016, pp. 5–7; Queensland Government, submission to the Productivity Commission, *National Water Reform, issues paper,* March 2017, p. 7; Queensland Government, Seqwater and Sunwater irrigation pricing overview, https://www.business.qld.gov.au/industries/mining-energy-water/water/industry-infrastructure/pricing/irrigation.

[50] Queensland Treasury and Department of Energy and Water Supply, submission to the ACCC, *Review of the Water Charge Rules, draft advice*, March 2016, pp. 5–7; Queensland Government, submission on the Productivity Commission, *National Water Reform, issues paper*, March 2017, p. 7; Queensland Government, Seqwater and Sunwater irrigation pricing overview, https://www.business.qld.gov.au/industries/mining-energy-water/water/industry-infrastructure/pricing/irrigation.

[51] Canegrowers Isis, sub. 93.

#### QCA assessment

We have had regard to the requirement to balance the legitimate commercial interests of the water businesses with the interests of their customers in the context of our review. In particular, in setting recommended prices, we have balanced the commercial interests of irrigators and the water businesses, by moderating the bill impact of higher volumetric prices and establishing prices to at least cover fixed operating costs to facilitate the viability of the water supply business.

As discussed above, one of the key objectives underpinning the pricing framework for our investigation is that prices transition to reflecting lower bound costs over time and Government has set this objective based on its consideration a range of issues, including customers' capacity to pay. Given that, it is our view that capacity to pay has been taken into account in the design of the pricing framework and through our application of the pricing principles in the referral. Moderating bill impacts therefore involves staging any price increases required to meet the lower bound cost objective in a manner that allows users sufficient time to adjust.

We also consider that the need to balance the commercial interests of the businesses with the interests of their customers has been taken into account through our application of the pricing principles in the referral. In our view, the principles balance the revenue adequacy requirements of the water businesses with the interests of their irrigation customers by setting a cost recovery target for prices that is lower than that for other customers in the specified schemes/systems and by providing a gradual transition path for achieving that target.

### 2.6.7 Simple and transparent revenue and pricing outcomes

We are required to ensure, where possible, that revenue and pricing outcomes are both simple and transparent for customers.

#### Stakeholders' submissions

Sunwater considered that there was a need to move to simpler and more transparent arrangements for prices.[52] Both water businesses have also proposed approaches to revenue allocation that they consider will deliver a simpler and more transparent allocation of costs between the fixed and variable components of prices.

Some irrigation stakeholders indicated that they wanted a more transparent method for establishing and allocating some costs (for example, non-direct costs and electricity costs).[53]

#### QCA assessment

We have sought, where possible, to recommend revenue and pricing outcomes that are simple and transparent for customers. In particular, we have sought to balance complexity, cost and transparency in undertaking key tasks such as the allocation of costs between the fixed and variable components of prices.

## 2.7 Summary of approach to relevant matters

We have had regard to all of the matters we consider relevant under section 26 of the QCA Act and the referral notice.

[52] Sunwater, sub. 11.
[53] BRIA, sub. 85; QFF, sub. 131.

We have also considered all of the issues raised in submissions in deciding the relative importance to attach to the relevant matters. Our draft findings on these issues reflect what we consider is an appropriate balancing of the relevant matters.

In undertaking our investigation and recommending prices, we have emphasised the pricing principles set out in the referral, as these principles give effect to the lower bound cost target, which is a key tenet of the Government's water pricing policy and underpins the pricing framework for our investigation.

Recommending prices that are consistent with those pricing principles also takes into account social welfare and regional development considerations. The Government has indicated that, in setting the lower bound cost target for irrigation water prices and establishing a gradual transition path to that target, it has considered a range of matters including customers' capacity to pay and benefits of industry to the Queensland economy.

We also emphasise efficiency factors, as prices that reflect efficient costs will promote efficient resource allocation, including efficient investment, and protect consumers from abuses of monopoly power.

# 3 RISK AND THE REGULATORY FRAMEWORK

*The referral directs us to recommend prices that are based on all tariff groups transitioning to cost-reflective prices, which incorporate efficient costs allowable under the referral. The referral also requires us to recommend appropriate price review triggers and other mechanisms to manage the risks associated with material changes in allowable costs outside the control of the water businesses.*

*We have considered mechanisms for managing key revenue and cost risks, taking into account stakeholder submissions where relevant. We have assessed these mechanisms by considering the matters required under section 26 of the QCA Act and the referral.*

*We recommend dealing with revenue risks by aligning tariff structures closely with cost structures, and dealing with cost risks by using within-period reviews or price adjustments (if the risk is material) or an end-of-period revenue adjustment (if the risk is not material).*

## 3.1 Background

There are a range of risks related to the provision of irrigation services that can have an impact on the water businesses or their customers.

These risks manifest mainly as revenue risk (the risk that revenues received by the water businesses during the price path period differ from prudent and efficient costs determined through the pricing investigation) or cost risk (the risk of changes in prudent and efficient costs during the price path period).

### 3.1.1 Sources of revenue risk

Revenue risk may be short-term or long-term in nature. In the short term, it derives from uncertainties around the volume of water that will be:

- demanded by customers during the price path period (i.e. short-term demand risk)
- available for supply during the price path period (i.e. short-term supply risk).

In the longer term, this risk relates to the possibility of structural changes in demand or supply (long-term revenue risk) that might affect the viability of a scheme if not adequately addressed.

#### Short-term demand risk

From the perspective of the water businesses, short-term demand risk is higher where revenues are based entirely on volumes supplied—that is, where tariffs are volumetric with no fixed component. In that case, if expected demand does not materialise, there will be a shortfall in revenues directly proportional to the shortfall in demand. This is particularly relevant because the water businesses have a largely fixed cost base.

There will also be a symmetrical risk to customers in that, where actual demand exceeds expected demand, the water businesses will recover more revenue than required to cover prudent and efficient costs.

In the case of downside risk (i.e. demand that is less than forecast), the water businesses could be subject to shortfalls in revenue, which could lead to adverse impacts including:

- the water businesses' ongoing ability to deliver services being hampered

- the water businesses potentially requiring cash injections from the government, as owner, to retain sustainability.

Conversely, if demand persistently exceeds forecast in the short term, customers could end up paying more than is necessary to recover the water businesses' prudent and efficient costs. This higher input cost could have adverse impacts on customers' profitability in circumstances where they are unable to pass on these costs and have to absorb them to maintain a competitive position.

#### Short-term supply risk

In the short term, the water businesses' ability to supply water depends on the availability of water in storages, which in turn depends on rainfall and hydrology. However, the future variability of rainfall under natural climate variation is difficult to forecast with any certainty; therefore, water availability cannot be predicted with any degree of accuracy.

Under these circumstances, the water businesses face a risk to revenue adequacy, should storage levels remain depressed, as this could lead to a decline in sales revenue required to recover their costs.

Irrigation customers also face supply risk in terms of their irrigation businesses. Should storage levels remain depressed, they would face reduced crop yields and therefore reduced revenues from which to cover their input costs. This would hamper the profitability of their businesses.

#### Long-term revenue risk

In the longer term, irrigation schemes may face the risk of declining demand (e.g. due to permanent trading out of the scheme) or reductions in available supplies (e.g. due to long-term changes in rainfall patterns) that could impact the long-term viability of these schemes.

### 3.1.2 Mechanisms for addressing revenue risk

There are a range of mechanisms that could be used to manage revenue risk, depending on whether the risk is short-term or long-term.

In the short term, mechanisms aim to maintain a reasonable level of revenue adequacy, taking into account appropriate risk-sharing and incentive implications.

In the longer term, the regulatory framework could be designed to provide an enabling environment within which businesses and their customers can adjust to structural changes in a way that minimises costs and maintains scheme viability.

#### Short-term revenue risk

Regulatory mechanisms used for managing short-term revenue risk include:

- tariff structure—a two-part tariff that closely aligns the volumetric component with variable costs allows revenues collected from the volumetric tariff to adjust to reflect changes in customer demand while ensuring sufficient revenue is collected from the fixed component to cover fixed costs
- end-of-period revenue adjustment—adjusting allowable revenues for the subsequent regulatory period to account for revenue over- or under-recovery in the current period
- revenue cap—a form of price control that gives businesses discretion to adjust prices within the regulatory period, subject to the constraint that the resulting change in revenue does not exceed a predetermined cap. This contrasts with a price cap, which directly caps the rate at which the business can change its prices in the interest of price stability.

#### Long-term revenue risk

In the longer term, businesses and their customers may employ a range of strategies to mitigate revenue risk, depending on the nature of the risk and the legislative framework in place. For example, businesses could attempt to mitigate long-term demand risk by finding opportunities to rationalise the network of assets to reduce costs or finding ways to sustain the customer base where practical (e.g. through commercial negotiations). With regard to long-term supply risk, businesses could augment supply infrastructure to increase available supplies.

We note that the current legislative arrangements limit the way in which these incentives can operate in practice. For example, irrigators can only surrender their water allocations upon the consent of the businesses (noted in Chapter 2). This arrangement could limit the ability of irrigators to exit a scheme even when it may be efficient to do so, and dampen the incentive for the businesses to find ways to reduce scheme costs.

We also note that, under existing legislative arrangements[54], the businesses have no effective means of increasing storage capacity.

Water management protocols (WMPs) specify the volume of water that the businesses can supply under water access entitlements (WAEs). Resource operations licences (ROLs) specify the extent to which they can interfere with natural flows when operating their infrastructure. In order to increase current storage capacity or to access any strategic reserve, WMPs and ROLs need to be amended. However, under the *Water Act 2000*, they may only be amended by the chief executive of the Department of Natural Resources, Mines and Energy (DNRME).

Further, water plans may also require legislative amendment where they do not make provision for strategic reserves.

### 3.1.3 Sources of cost risk

Cost risk may arise from actual costs over the price path period differing from forecast costs as a result of:

- changes in market conditions for inputs (leading to changes in input costs)
- regulatory imposts, such as changes in taxation, legislation or regulation
- other unforeseen events, such as major flooding.

It is important to note that changes in costs may also arise out of inefficiencies on the part of the water businesses or at the expense of required service standards. These types of risk, which are within the ability of the water businesses to control, should not be borne by their customers.

### 3.1.4 Mechanisms for managing cost risk

The mechanisms typically used to manage costs risks include:

- end-of-period revenue adjustments—accounting for revenue over- or underrecovery through an adjustment to allowable revenues for the subsequent regulatory period. Only efficient costs beyond the ability of the business to manage are eligible following a receipt of an application from the business
- within-period revenue adjustments—provisions that allow a review to be triggered within the regulatory period. The trigger is generally initiated by reference to the business'

[54] Legislative arrangements are discussed in Appendix E.

revenues or costs arising from events that cause costs to diverge significantly from initial forecasts

- cost pass-throughs—a mechanism for automatically passing-through cost changes to customers within the regulatory period (typically where these are reasonably foreseeable with little expected volatility).

### 3.1.5 Existing regulatory framework

In the 2012 and 2013 reviews, our primary consideration in deciding whether to allocate a risk to the water business or their customers was the relative ability of either party to control the particular type of risk.

We assessed the risks and operating environment within which the water businesses operated and recommended, among other things:

- Short-term volume risks should be managed through a cost-reflective tariff structure, with the balance between fixed and volumetric charges closely aligned with the fixed and variable nature of the underlying costs of the business.
- Risks associated with distribution losses should be allocated to the businesses on the basis that they have some capacity to manage distribution system infrastructure and losses.
- Costs risks arising from specific events (changing market conditions for inputs or regulatory imposts) outside of the control of the businesses should be managed through a within-price path review[55], or otherwise through an end-of-period adjustment.

The Government accepted these recommendations in full, and issued us with a direction notice under section 23 of the QCA Act to enable us to undertake a within-period price review if the water business or irrigators sought that and we considered that the party seeking the review had demonstrated that the unforeseen costs were material.

### 3.1.6 Key issues for consideration

We have considered mechanisms for managing revenue and cost risks, taking into account stakeholder submissions where relevant.

We have assessed these mechanisms by considering the matters required under section 26 of the QCA Act and the referral, including economic efficiency, revenue adequacy, economic and regional development issues, social welfare and equity considerations and balancing the legitimate commercial interests of the businesses with those of their customers.

## 3.2 Revenue risk

### 3.2.1 Previous investigations

In the 2012 and 2013 reviews, we identified short-term volume risk (i.e. unanticipated changes in demand and/or short-term fluctuations in storage levels) as a key form of revenue risk over the regulatory period.

We recommended that this risk be allocated to customers on the basis that the businesses had little ability to manage it and that, under the existing legislative arrangements, supply risk was the responsibility of customers. For example, standard supply contracts between the water

[55] We did not predefine a threshold for a review trigger, but instead proposed to make an assessment on application from Sunwater or Seqwater, or their customers.

businesses and their customers required the water businesses to only supply water to customers when there was sufficient water available.[56]

On that basis, we recommended that this risk should be managed through cost-reflective tariff structures, with all fixed costs recovered through fixed charges and variable costs recovered from volumetric charges.

With respect to long-term volume risk, we noted that the businesses have little capacity to augment bulk infrastructure as responsibility for this rests with government. However, we allocated risks associated with distribution losses to the businesses on the basis that they had some capacity to manage these losses. We also recommended that they benefit from the revenues associated with reducing distribution system losses.

### 3.2.2 Stakeholders' submission

Wide Bay Burnett Regional Organisation of Councils (WBBROC) submitted that the current allocation of risk is biased against customers.[57]

### 3.2.3 Approach in other jurisdictions

We have reviewed the approach that regulators in selected Australian jurisdictions use to manage revenue risk within their regulatory frameworks. We have focused on jurisdictions that have rural irrigation businesses.

#### New South Wales

In New South Wales (NSW), the Independent Pricing and Regulatory Tribunal (IPART) regulates WaterNSW's rural irrigation business.

IPART considers that the tariff structure of WaterNSW (an 80:20 fixed to variable split)[58] is the appropriate mechanism for managing revenue risk. This approach ensures that customers receive an appropriate price signal about their water use decisions while ensuring that WaterNSW is able to recover the fixed costs of providing the service.

IPART acknowledges that WaterNSW retains a residual amount of risk given that its fixed costs exceed 80 per cent of its total costs. However, IPART considers this is appropriate, as business revenues are not guaranteed in markets.[59]

#### Victoria

The Essential Services Commission (ESC) regulates a number of rural water businesses in Victoria. Prior to its 2018 determination, the ESC issued a guidance paper to the businesses in which it articulated its preferred approach to risk management. The ESC stated that:

> Efficiency is promoted when risk is adequately identified, quantified, allocated and, where appropriate, managed by a water business. Prices should reflect the costs incurred in delivering services, incorporating reasonable assumptions about risk. A water business's price submission must be informed by a robust risk identification process. A water business's proposals should

[56] Section 122A of the *Water Act 2000* empowers the chief executive of DNRME to approve standard supply contracts under which the businesses' obligation to release water was subject to resource operations licences requirements, customer allocations, estimated likely demand of other customers, the availability of water and the capacity of the businesses' infrastructure among other requirements.

[57] WBBROC, sub. 149, pp. 19–20.

[58] Some customers have a fixed to variable ratio of less than 80:20 but pay a revenue volatility premium to achieve an 80:20 split through a financial swap arrangement between WaterNSW and a third party.

[59] IPART, *Review of prices for WaterNSW from 1 July 2016 to 30 June 2020*, final report, June 2016, pp. 86, 91–94.

> allocate risk appropriately, and where a business is best placed to do so, specify the mechanisms it will use to manage risk. [60]

The ESC listed a range of mechanisms for dealing with risk, and mentioned tariff structure and the form of price control as specific mechanisms for dealing with revenue risk.[61] The ESC sought information about risk management in the businesses' proposals in these areas.[62] In its final decision, the ESC approved hybrid revenue caps[63] for some businesses (Southern Rural Water and Lower Murray Water) to mitigate revenue risk, although it also approved a price cap form of regulation for other businesses (GWMWater and Gippsland Water). These latter businesses had a two-part tariff structure, and the ESC considered they were in a position to manage demand risk.

### 3.2.4 QCA assessment

In considering appropriate risk management mechanisms, we have considered the matters required under section 26 of the QCA Act and the referral including economic efficiency, revenue adequacy, economic and regional development issues, social welfare and equity considerations, and balancing the legitimate commercial interests of the businesses with those of their customers.

#### Short-term demand risk

One manifestation of short-term demand risk is its implications for revenue adequacy of the businesses, particularly where they have limited control over customer demand.

Demand for water can fluctuate over the price path period for many reasons, such as:

- rainfall and changes in rainfall patterns
- changes in crop composition or areas irrigated due to changes in commodity prices
- changes in on-farm costs
- customer access to alternative water supplies
- irrigation water prices.

We consider that these factors are outside the control of the businesses, as they depend on movements in commodity markets and climatic conditions or, in the case of irrigation water prices, the Government, who sets the prices. The water businesses therefore have limited control over demand.

Customers, on the other hand, may vary their demand for irrigation services in response to changing rainfall patterns, changes in commodity prices, access to alternative water supplies and changes in input costs, including the price of irrigation services.

On this basis, a two-part tariff structure would strike an appropriate balance in allocating demand risk between the water businesses and their customers. By closely aligning the volumetric component of tariffs with variable costs, revenues collected from the volumetric tariff will adjust to reflect changes in customer demand.

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[60] ESC, *2018 Water Price Review*, guidance paper, November 2016, p. 18.
[61] ESC, *2018 Water Price Review*, guidance paper, November 2016, pp. 75–76.
[62] ESC, *2018 Water Price Review*, guidance paper, November 2016, p. 19.
[63] The businesses could rebalance tariffs under the revenue cap, but subject to a rebalancing constraint. This was intended to limit price volatility during the regulatory period.

At the same time, the water businesses would collect sufficient revenue from the fixed component of tariffs to recover their fixed costs and customers would be protected from paying any more than is required for the water businesses to recover prudent and efficient costs.

The approach of using a two-part tariff structure therefore meets the criterion of revenue adequacy while also providing efficient pricing signals.

It is also consistent with the referral, which requires tariff structures to align closely with the businesses' cost structures. Further, to the extent that customers are able to adjust their decisions in response to changes in costs (e.g. sourcing alternative supplies), the approach may also support economic efficiency by providing customers with more appropriate signals on the cost of their water use; this may however be muted by the government's pricing principles, which limit the extent to which tariff structures may be rebalanced over the price path period.

### Short-term supply risk

As with short-term demand risk, the water businesses have little ability to manage short-term supply risk, as they cannot influence water availability in the short-term. They may be able, though, to access strategic reserves identified in WPs in limited circumstances.

Customers also have limited ability to manage short-term supply risk, but they may have the options of trading WAEs, making short-term changes in crop composition or areas under irrigation or sourcing alternative water supplies (e.g. groundwater). However, the current legislative arrangements allocate supply risk to customers.

All water allocations managed under a ROL require the allocation holder (i.e. the irrigation customer) and the licence holder (i.e. the water business) to have a supply contract for the allocation. Standard supply contracts provide details of the arrangements for the storage and delivery of water under water allocations.[64]

Under current supply contracts, the businesses may restrict the release of water as required by the ROL, the customer's allocation, likely demand of other customers, the availability of water and the capacity of infrastructure.

Further, under the national water initiative, to which the Queensland Government is a signatory, WAE holders are responsible for bearing the risks of any reduction in water allocation, including the reliability of allocations, resulting from seasonal or long-term changes in climate and periodic natural events such as bushfires and drought.[65]

We consider that these factors support the use of a two-part tariff for managing short-term supply risk.

### Long-term revenue risk

As noted above, there are a few areas where current legislative arrangements could potentially limit the extent to which the water businesses and their customers could mitigate long-term revenue risk.

For example, irrigators can only surrender their water allocations with the consent of the water businesses, which could limit the ability of irrigators to exit a scheme and mask signals to the businesses to find ways to reduce scheme costs. We encourage the government to explore the

[64] Section 146 of the *Water Act 2000*.
[65] COAG, *Intergovernmental Agreement on a National Water Initiative*, 2004, clause 48, available at http://www.agriculture.gov.au/water/policy/nwi.

possibility of introducing a mechanism for irrigation customers to surrender their water allocations to water businesses in high costs schemes/systems (see Chapter 2).

The water planning arrangements place the responsibility for supply augmentation with the government. However, in the case of distribution systems, the businesses have some ability to control system losses and may have an incentive to do so where they are able to benefit from extra sales revenue from the entitlements created. For that reason, we consider it appropriate to allocate the risk of distribution losses to the businesses (see Chapter 6, in each of Part B and Part C).

### Summary

A large proportion of the businesses' costs is fixed and independent of volumes, and the businesses are limited in their ability to avoid these costs. On the other hand, structuring tariffs so that they more closely reflect the cost structure of the businesses may provide customers with better signals on the cost of their water use—although this effect may be muted, given the government's pricing principles and the ability of customers to adjust to these signals.

In general, we consider that a two-part tariff structure that closely aligns with the businesses' cost structure reflects an appropriate allocation of demand risk, as it mitigates the businesses' revenue risks without fully shielding them from this risk.

On balance, we consider that irrigators are generally in a better position than the businesses to manage short- and long-term supply risks. The businesses have limited options beyond better management of system losses or seeking augmentation. Irrigators can potentially trade their entitlements, switch to crops that use less water or reduce the area under irrigation, implement more efficient water use technologies, or source alternative water supplies. While in most schemes it is better if this balance of risks is placed on irrigators, in some schemes it is clear that irrigators have few options to manage this risk—in which case neither party is able to adequately manage the risks. Examples are:

- the Eton scheme, where there are no viable alternative crops and no active trade in WAEs
- schemes that have persistently low reliability of supply, where irrigators have no alternative water supplies and have limited dryland cropping options but may still be required to meet the fixed costs of the water supply schemes.

The Minister's referral constrains us to establish price paths that conform to the policy agenda set by the Government. This may conflict with a reasonable assessment of the social welfare and equity and regional development implications referred to in section 26 of the QCA Act if irrigators are not well placed to manage certain risks in certain schemes. Accordingly, we have addressed the scheme-specific risk allocation issues (see Chapter 7, in each of Part B and C).

We consider that the businesses are in a good position to manage any residual risk. They could use a range of strategies, including refining their demand forecasts (see Chapter 5, in each of Part B and C) and, where appropriate and possible to do so, hedging against any residual risk through, for example, purchasing financial instruments to limit revenue volatility where customers are willing to share the cost.

Consistent with the previous reviews, we consider it is appropriate to allocate the risk of distribution losses to the businesses (see Chapter 6, Part B and C).

### Draft recommendation 1

We recommend that short-term revenue risk be addressed through the use of a two-part tariff structure that closely aligns with the businesses' cost structure.

## 3.3 Cost risk

### 3.3.1 Previous investigations

In the 2012 and 2013 reviews, we allocated cost risk (that is, risks associated with input cost changes) to the businesses (where the costs were controllable), with an end-of-period adjustment for uncontrollable costs and a within-price path review (on application by businesses or customers) in limited circumstances.

We allocated the risk of regulatory imposts (that is, changes in taxation, legislation or regulation) to customers and recommended a pass-through mechanism for these costs, depending on materiality.

### 3.3.2 Stakeholders' submissions

Sunwater submitted that the QCA should investigate mechanisms that recognise the expected volatility in electricity costs over the price path period to ensure customers pay no more (or less) than what Sunwater actually incurs. Sunwater proposed an electricity true-up mechanism whereby electricity costs would be recovered through the variable tariff and yearly 'unders or overs' would be accounted for through an annual adjustment to the variable tariff.[66]

Sunwater said that it had consulted with the Queensland Farmers Federation (QFF) on this proposal and that while the QFF expressed a willingness to further explore options, it was concerned that applying the true-up to the volumetric tariff could mean that irrigators who use more of their allocations would bear a greater proportion of the true-up adjustment.

For cost risks arising from cost inputs (other than electricity costs) or regulatory imposts, Sunwater proposed that any material increases in costs in the next price path period be subject to an adjustment mechanism (similar to the approach adopted by the QCA in the 2012 review).[67]

The QFF submitted that the QCA should establish a transparent approach for passing through electricity costs.[68]

The Bundaberg Regional irrigators Group (BRIG) did not support Sunwater's proposed true-up mechanism, saying it seems unnecessarily complex and appears to have significant intergenerational transfer/equity issues.[69] BRIG proposed a quarterly Part E volumetric charge that would recover Sunwater's actual electricity usage and demand costs, with an annual electricity review that reviews the tariff of each pump station.[70]

Some stakeholders did not support any form of cost pass-through mechanism for electricity prices, as this would reduce the incentive for Sunwater to manage its electricity costs

[66] Sunwater, sub. 11, p. 73.
[67] Sunwater, sub. 14, pp. 21–22.
[68] QFF, sub. 132, p. 5.
[69] BRIG, sub. 88, p. 17.
[70] BRIG, sub. 88, pp. 19–22.

efficiently.[71] Fairbairn Irrigation Network disagreed with an electricity cost pass-through mechanism but said that if a pass-through mechanism were to be adopted, the process still needs to ensure that electricity costs are projected with the best available data to avoid price shocks during the price path period.[72]

### 3.3.3 Approach in other jurisdictions

New South Wales and Victoria have rural irrigation businesses. Regulators in the two jurisdictions use different approaches to manage cost risk within their regulatory frameworks.

#### New South Wales

IPART employs an efficiency carryover mechanism for controllable opex, whereby WaterNSW retains any cost savings it makes during the regulatory period, for the duration of the regulatory period. IPART allows WaterNSW to recover Murray-Darling Basin Authority charges through a cost pass-through mechanism.[73]

#### Victoria

ESC deals with cost risk using an 'uncertain and unforeseen events' mechanism.

Under this mechanism, the businesses can apply to amend a determination because of events that were uncertain or unforeseen when the determination was made. It allows for a re-opening of the determination based on any event that was uncertain or unforeseen at the time of review, and that the business cannot control or manage efficiently without undermining service delivery.

### 3.3.4 QCA assessment

We consider that where the businesses can exert control over costs, it is appropriate to allocate cost risk to them. Where costs are uncontrollable, we consider that changes in cost that are prudent and efficient should be passed on to customers. This ensures that revenue adequacy is maintained while customers are protected from paying for inefficient increases in costs.

Changes in prudent and efficient costs beyond the control of the water businesses include changes in input costs, regulatory imposts and other unforeseen events.

We have considered appropriate mechanisms for allocating risks associated with these costs.

#### Changes in input costs

In general, we consider that it is appropriate to pass through an input price change where the level of the price change is uncertain but the change is foreseeable and predictable, with no material impact on prices. Such a pass-through mechanism would take into account the relevant tariff structure. For example, if a carbon tax was due to be applied to the variable electricity tariff at a future date, this could be addressed through a cost pass-through mechanism applicable to the relevant variable electricity tariff.

However, we do not consider a cost pass-through mechanism to be appropriate for dealing with unpredictable and potentially significant changes in costs, as this could increase price volatility, and would not provide an opportunity to assess the prudency and efficiency of such cost changes.

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[71] WBBROC, sub. 149, p. 10; Isis Canegrowers, sub. 91, p. 2; BRIA, sub. 85, p. 39, Fairbairn Irrigation Network, sub. 104, p. 6.
[72] Fairbairn Irrigation Network, sub. 104, p. 6.
[73] IPART, *Review of prices for WaterNSW from 1 July 2016 to 30 June 2020,* final report, June 2017, pp. 86, 91–94.

Under Sunwater's proposal, electricity costs are required to be fully allocated to the volumetric component of irrigation tariffs with an annual electricity cost per megalitre determined by the QCA. There would then be an annual adjustment to the electricity cost per megalitre, to take account of changes in actual electricity costs.

The electricity cost per megalitre determined in this way, however, will not necessarily reflect the underlying electricity tariff rates and could lead to perverse outcomes, where changes in electricity costs are the result of changes in volumes as opposed to changes in tariff rates.

BRIG's proposal of a Part E electricity tariff attempts to address the concern with Sunwater's proposal by avoiding the need to estimate electricity costs. Such a tariff would pass through the change in actual variable electricity costs over a defined period (say a quarter), divided by the change in the actual volume of water delivered over that period.

However, similar to the Sunwater proposal, this proposal requires assumptions to be made about variable electricity costs. For example, it assumes that Sunwater's electricity demand charge is a variable charge, although it is a monthly charge that does not vary up to Sunwater's authorised demand for the month.

We also consider that this automatic cost pass-through mechanism could have potentially large bill impacts in a given quarter and also would not give clear pricing signals to customers on the cost of their water use. In recommending prices, we are required to have regard to balancing the legitimate commercial interests of the water businesses with the interests of customers, including considering less than cost-reflective volumetric prices, which are necessary to moderate bill impacts.

An alternative approach would be to allow Sunwater or its customers to apply for a within-period price adjustment, where Sunwater or its customers consider that there has been a material change in input costs beyond their ability to manage. For example, customers could apply for a within-period review to have any reductions in retail electricity prices during the price path period, passed-on to them.

Therefore, we recommend that the water businesses or their customers should be able to apply for a review of prices within the regulatory period where either party considers there has been a material change in costs, triggered by an unpredictable change in input markets, which they are unable to manage. This approach supports the principles of revenue adequacy and economic efficiency by ensuring that only changes in prudent and efficient costs that are beyond the ability of the businesses to manage are reflected in prices within the regulatory period. It also mitigates the risk to customers that prices may reflect costs that are higher than the prudent and efficient level.

Where the change in costs is not material, we recommend that it be dealt with through an end-of-period revenue adjustment.

### Regulatory imposts

A government impost on the water businesses can be passed on to customers where the change in cost is material. We recommend that the businesses should be able to apply for a within-price path review in the case of a government impost that they consider they are unable to manage.

Where the change in costs is not material, we recommend that it be dealt with through an end-of-period revenue adjustment.

### Other unforeseen events

The water businesses face the risk of unforeseen events (e.g. flooding that leads to substantial damage to assets) that may lead to a material increase in costs.

In some instances, the change in cost could be significant and the business may be unable to absorb the cost during the regulatory period. Nevertheless, we do not consider it appropriate for the businesses to pass on significant changes in costs to customers without the prudency and efficiency of these costs having been reviewed.

In particular, we note that it can be difficult under some circumstances to determine whether a material change in costs is due to an uncontrollable event, or whether the business could have better controlled the cost. Therefore, we recommend that the businesses should be able to apply for a review of prices within the price path period where they consider there has been a material change in costs, triggered by an unforeseen event, which they have been unable to manage.

This approach supports the principles of revenue adequacy and economic efficiency by ensuring that only changes in prudent and efficient costs that are beyond the ability of the businesses to manage are reflected in prices within the regulatory period.

### Process for within-period price review

As in the 2012 and 2013 reviews, we do not propose to predefine a threshold for a review trigger. We consider that whether a change in cost is material will depend on the particular circumstances prevailing at a given time. We also note that the government is ultimately responsible for determining prices and we can only make recommendations on referral from government. In these circumstances, we do not consider it appropriate to propose predefined review triggers.

#### Draft recommendation 2

We recommend:

- the use of a within-period price review mechanism where:
  - the water businesses or their customers consider there has been a material change in costs triggered by an unpredictable change in input markets, which they are unable to manage
  - the water businesses consider there has been a material change in costs triggered by a government impost or an unforeseen event, which they are unable to manage
- that any affected party should be able to apply for a within-period price review without a predefined review trigger
- the use of an end-of-period adjustment mechanism in cases where the change in cost is determined not to be material.

# 4 APPORTIONING DAM SAFETY UPGRADE CAPITAL EXPENDITURE

*As part of this review, we have been asked to develop and apply an appropriate approach to apportioning dam safety upgrade capital expenditure (dam safety upgrade capex), and explain this approach and its application as part of our recommendations.*

*In developing our proposed approach, we have considered the extent, if any, to which the proportion of dam safety upgrade capex allocated to irrigators should reflect the possibility that both irrigators (as direct water customers) and the broader community may contribute to the need for, or may derive benefits from, dam safety upgrades.*

*Consistent with the requirements of the referral, we have recommended two sets of draft irrigation prices: one set that excludes all dam safety upgrade capex and one set that includes an appropriate allowance for prudent and efficient dam safety upgrade capex forecast to be incurred from 1 July 2020 onwards.*

*Consistent with the referral, our draft prices and proposed approach to apportioning dam safety upgrade capex only apply to irrigation customers in the specified WSSs and distribution systems*

## 4.1 Overview

If a dam fails, it can have serious consequences for downstream communities. Consequently, dam owners and operators have a regulatory obligation to manage the risk of dam failure. In order to comply with that obligation, it may be necessary to upgrade a dam to reduce the potential for dam failure to tolerable levels[74]. Dam safety upgrades can include dam spillway upgrades, the installation of spillway gates, structural modifications and modifications to dam embankments.

As part of this review, we have been asked to develop and apply an appropriate approach to apportioning dam safety upgrade capex, and explain this approach and its application as part of our recommendations. In developing our proposed approach, we have considered the extent, if any, to which the proportion of dam safety upgrade capex allocated to irrigators should reflect the possibility that both irrigators (as direct water customers) and the broader community may contribute to the need for, or may derive benefits from, dam safety upgrades.

Consistent with the requirements of the referral[75], we have recommended two sets of draft irrigation prices in relation to dam safety upgrade capex:

- prices that exclude all dam safety upgrade capex
- prices that include an appropriate allowance for prudent and efficient dam safety upgrade capex forecast to be incurred from 1 July 2020 onwards.

Consistent with the referral, our draft prices and proposed approach to apportioning dam safety upgrade capex only apply to irrigation customers in the specified water supply schemes and distribution systems. [76]

[74] As determined by the relevant dam safety regulators—see section 4.2 for more information.
[75] Paragraph B(1.3).
[76] See sections 1.3 and 2.2 of this report for an explanation of why our recommendations apply only to irrigation customers in certain WSSs/distribution systems and not to other customers in those WSSs/systems or to customers in other WSSs/distribution systems outside of those specified in schedule 1 of the referral.

### 4.1.1 Stakeholders' submissions

Irrigation stakeholders generally expressed concern about the requirements in the referral relating to dam safety upgrade capex.[77] Some of them, including Central Highlands Cotton Growers and Irrigators Association and the MDIAC, considered that the Government should remove this requirement from the referral. While we acknowledge these stakeholder comments, we note that irrigation pricing policy and the terms of the referral are matters for the Government.

QFF and a number of other irrigation stakeholders considered that it was not acceptable for the QCA to develop an approach to apportioning dam safety upgrade capex that only applied to irrigation customers. QFF also considered that it would not be appropriate for the QCA 'to respond to this brief [developing an approach to apportioning dam safety upgrade capex] unless it can engage all parties likely to be affected including irrigation customers, local government customers and the stakeholders in the wider community in a process which provides comprehensive information about the dam safety requirements and the individual scheme projects and costs.'[78]

Cotton Australia indicated that it did not believe it was appropriate for the QCA to investigate any method of apportionment between users and the Government.[79]

Some stakeholders, including the LGAQ, Wide Bay Burnett Regional Organisation of Councils and Bundaberg Regional Council, raised concerns about dam safety upgrade capex on dams that are not within the WSSs and distribution systems specified in the referral, or which have been specifically excluded from the scope of the review by the referral (Paradise Dam)[80].

### 4.1.2 QCA assessment

Under the terms of the referral, the approach we develop to apportioning dam safety upgrade capex and the prices we recommended only apply to irrigation customers in the specified water supply schemes and distribution systems. The allocation of dam safety upgrade capex across non-irrigation customers in those schemes (for example, industrial customers and local government), and the prices paid by those customers, are not within the scope of this review and are matters for Sunwater and Seqwater.

Consistent with terms of the referral, our analysis and draft recommendations also do not apply to dams and related dam safety upgrade capex that are outside the scope of this review. The allocation and recovery of dam safety upgrade capex on dams that fall outside the scope of this review are matters for affected dam owners/operators and their customers.

## 4.2 Dam safety compliance obligations

The Water Supply (Safety and Reliability) Act 2008 (the WSSR Act) establishes the regulatory framework for maintaining the safety of water dams in Queensland. It empowers the Department of Natural Resources, Mines and Energy (DNRME) to make guidelines on, among

[77] See for example, QFF, sub. 133; Canegrowers Mackay, sub. 96; and MDIAC, sub. 123.
[78] QFF, sub. 133, p. 4.
[79] Cotton Australia, sub. 103.
[80] Paragraph A(1.2) of the referral specifically excludes water services provided by Burnett Water Pty Ltd in relation to Paradise Dam and Kirar Weir from the scope of our review.

other things, managing a referable dam[81] and the flood capacity of dams. These guidelines constitute the regulatory basis for dam safety standards for referable dams throughout Queensland.

The Queensland Dam Safety Management Guidelines have been established under the WSSR Act and require dam owners and operators to have an effective dam safety management program to minimise the risk of dams failing and to protect life and property.[82] The dam safety regulator in DNRME has also issued acceptable flood capacity (AFC) guidelines that specify the minimum flood capacity that a referable dam must be able to safely pass.[83] The general principle incorporated in the AFC and Australian National Committee on Large Dams (ANCOLD) guidelines[84] is that a dam whose failure would cause excessive damage or the loss of many lives should be designed to a proportionally higher standard than a dam whose failure would result in less damage or fewer lives lost.[85] It follows that if a new development occurs downstream of a referable dam, higher dam safety standards may be required for that dam.

The AFC guidelines provide a formalised approach for dam owners to identify and prioritise dams requiring upgrade, and outline maximum timeframes for undertaking the required spillway upgrades. The AFC guidelines state that the owner of a large referable dam should use a risk-based approach to determine whether the AFC requirement is met. Among other things, this involves the dam owner conducting a comprehensive, quantitative risk assessment of the dam for all load conditions and failure scenarios in accordance with the ANCOLD guidelines.

All dams assessed under the risk assessment procedure must meet minimum criteria based on 'limits of tolerability' with respect to life safety risks for individuals and society. The minimum criteria reflect society's tolerance of risk relative to our average background risks. A less stringent tolerability limit applies for existing dams than for new dams. Once the limits of tolerability are met, risks need to be further reduced to be as low as reasonably practicable (ALARP).[86] The AFC guidelines interpret ALARP as being satisfied where the incremental cost of undertaking a spillway upgrade project to reduce the risk further below the specified limits of tolerability exceeds the benefits.[87]

### 4.2.1 Stakeholders' submissions

Some stakeholders, including LGAQ and Canegrowers Isis[88], raised concerns about the appropriateness of the regulatory requirements regarding dam safety and/or the level of

[81] A dam is a referable dam if it has been assessed as posing a risk to the safety of two or more people if it were to fail. By definition, referable dams do not include dams containing hazardous waste or weirs that do not have variable flow control structures on the crest of the weir.

[82] DNRM, *Queensland Dam Safety Management Guidelines,* Queensland Government, February 2002.

[83] DEWS, *Guidelines on Acceptable Flood Capacity for Water Dams*, Queensland Government, July 2017. This version replaces versions published in August 2016, January 2013 and February 2007 (the 2007 guidelines were the initial version issued under s. 491(4A) of the *Water Act 2000*). However, updated versions did not contain changes that increased standards or requirements.

[84] The ANCOLD guidelines relate to risk assessment (ANCOLD, *Guidelines on Risk Assessment*, October 2003), selection of AFC for dams (ANCOLD, *Guidelines on Selection of Acceptable Flood Capacity for Dams*, March 2000) and assessment of the consequences of dam failure (ANCOLD, *Guidelines on the Assessment of the Consequences of Dam Failure*, May 2000).

[85] DEWS*, Guidelines on Acceptable Flood Capacity for Water Dams*, July 2017.

[86] ALARP is defined as the principle that risks should be reduced below the limit of tolerability until further risk reduction is impractical or involves costs that are grossly disproportionate to the amount of risk reduction achieved.

[87] DEWS, *Guidelines on Acceptable Flood Capacity for Water Dams*, July 2017.

[88] LGAQ, sub. 115; Canegrowers Isis, sub. 93.

community consultation that had been undertaken prior to the implementation of the regulatory requirements. QFF considered that it was 'not acceptable at this stage for QCA to investigate a cost allocation brief without a full and extensive investigation of dam safety regulation in terms of the benefits and costs which takes into account all aspects of flood in this state.'[89] PV Water expressed similar views.[90] QFF also considered that the QCA should look at overlapping compliance requirements (in particular, dam safety obligations and population development approvals).[91]

### 4.2.2 QCA assessment

We note that the assessment of the relative merits of legislation and other regulatory instruments is a matter for the Government, the Office of Best Practice Regulation and the Queensland Parliament. As such, it is outside the scope of this review.

#### Recent developments and drivers of dam safety upgrades

Water businesses have reassessed their dam safety requirements in response to an improved understanding of extreme rainfall events and resultant floods, advances in knowledge about failure risks for dams, and increases in the consequences of failure at particular dams. In particular, the Bureau of Meteorology updated its method for estimating probable maximum precipitation in 2003, with new predictions suggesting that a much larger extreme rainfall event may be possible. This, as well as the update to the Australian Rainfall and Runoff guideline for flood estimation in 2016[92], have impacted the assessment of AFC for dams in Queensland.

In addition, many dams in Queensland are aging and have had a long and often extended period of service life. Engineering standards associated with site survey, design and construction, as well as the technical abilities to detect problems, have improved over time. Also, collective knowledge of dam safety risks has improved based on experience and learnings from dam incidents around the world. These developments have driven the need for many dam safety upgrades in Queensland.

Sunwater's dam safety upgrade program commenced in 2005 in response to the Bureau of Meteorology's new extreme rainfall projections. In 2012–13, Seqwater commissioned an independent review of its referable dams, which found a number of dams needed improvement to meet the requirements under the regulatory framework.

## 4.3 Dam safety upgrades to be undertaken in the price path period

In its regulatory submission[93], Sunwater has indicated that the following dams will be upgraded over the price path period:

- Bjelke-Peterson Dam (Barker Barambah WSS)
- Fred Haigh Dam (Bundaberg WSS)
- Burdekin Falls Dam (Burdekin-Haughton WSS)
- Coolmunda Dam (Macintyre Brook WSS)
- Fairbairn Dam (Nogoa-Mackenzie WSS)

[89] QFF, sub. 133, p. 4.
[90] PV Water, sub. 130.
[91] QFF, sub. 133.
[92] Ball, J et al. (eds), *Australian Rainfall and Runoff: a Guide to Flood Estimation*, Commonwealth of Australia, 2016.
[93] Sunwater, sub. 11, p. 53

- Teemburra Dam (Pioneer River WSS)
- Wuruma Dam (Upper Burnett WSS)
- Leslie Dam (Upper Condamine WSS).

Sunwater has also identified a number of smaller upgrades that may occur beyond the price path period including Callide Dam (Callide Valley WSS); Moura Off-stream Storage (Dawson Valley WSS); Isis Balancing Storage and Woongarra Balancing Storage (Bundaberg distribution system); Kinchant Dam (Eton WSS); Peter Faust Dam (Proserpine River WSS); and Cania Dam (Three Moon Creek WSS).

Seqwater has indicated that it does not expect to commission any dam safety upgrade projects in the price path period. However, it does have some planned dam safety upgrades that it anticipates will be completed beyond the price path period including Somerset Dam and Wivenhoe Dam (Central Brisbane River WSS); Maroon Dam (Logan River WSS); Atkinson Dam (Lower Lockyer Valley WSS); Borumba Dam (Mary Valley WSS); and Moogerah Dam (Warrill Valley WSS).[94]

## 4.4 Other stakeholders' submissions

Based on the submissions and stakeholder comments at workshops, dam safety is a material issue for many stakeholders.

Irrigation stakeholders generally do not support the inclusion of any dam safety upgrade capex in recommended prices, citing a variety of reasons, including:

- Upgrades benefit the broader community (in particular, through flood moderation and management) rather than irrigators and therefore the Government or the community should pay the costs.
- Irrigators do not have the capacity to pay the costs.
- The costs of the upgrades are so large that irrigators would not have invested in the schemes had they known that they would have to pay those costs.
- The dams were built to benefit the region, state and/or nation and therefore the upgrade costs should be paid by the Government.
- Some schemes have had equivalent upgrades previously paid for by the Government.

Local government stakeholders also raised concerns about dam safety upgrade capex, including:

- the cost and/or water supply implications of safety upgrades at dams that are outside the scope of this review[95]
- the treatment of dams built prior to 2000—some local government stakeholders considered that dam safety upgrades costs associated with these dams should be treated as legacy costs and paid for by the Government[96]
- the allocation of dam safety upgrade capex to water users, given historic subsidies/contributions and the benefits that the broader community gains from the upgrades (for example, improved flood moderation and management)—local government

[94] Seqwater, sub. 1.
[95] LGAQ, sub. 115; Bundaberg Regional Council, sub. 87.
[96] LGAQ, sub. 115; Lockyer Valley Regional Council, sub. 117.

stakeholders generally considered that the broader community and/or the Government should pay some or all of the costs in recognition of these subsidies/contributions and benefits[97]

- the possibility that local governments may be required to recover the costs of dam safety upgrades from the broader community[98]
- the potential for cost shifting to non-irrigation water users in the event that irrigation water users are not allocated their share of dam safety upgrade costs.[99]

## 4.5 Approach in previous reviews and other jurisdictions

We have previously considered how to recover dam safety upgrade capex in other regulatory decisions and policy papers. Other Australian regulators have also considered how to allocate dam safety upgrade costs for rural bulk water customers.

### 4.5.1 The QCA's pricing principles for the water sector

We have developed pricing principles to provide guidance about how to recover the costs of water services from users.[100] These principles address cost allocation for dams that provide services that benefit the broader community—in particular, environmental requirements, flood mitigation services[101] and recreational amenity. Environmental requirements could include fish ladders, while examples of recreational assets are picnic facilities, boat ramps and public safety infrastructure.

We considered that costs related to environmental requirements were a normal cost of operation. For flood mitigation and recreational services, given that there may be differences between the beneficiaries of these services and the direct users of water, our preferred approach was for beneficiaries to meet the cost of these services. In the absence of any specific funding arrangements for these services, we proposed including the prudent and efficient expenditure in the regulatory asset base for pricing purposes.

### 4.5.2 Approach in other QCA reviews

Our standard approach is to allow regulated businesses to recover the prudent and efficient costs they need to incur to provide the required service(s), and meet their legislative and regulatory obligations. Consistent with other legislative and regulatory compliance costs, our approach has generally been that safety-related costs constitute a normal cost of operation for businesses. That is, compliance costs are passed on to direct users of a service. For dams designed to deliver services other than bulk water supply to the broader community (e.g. flood mitigation services), we have recognised that some costs should be apportioned to beneficiaries of these other services.

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[97] Central Highlands Regional Council, sub. 10; LGAQ, sub. 115; North Burnett Regional Council, sub. 128; Lockyer Valley Regional Council, sub. 117. Toowoomba Regional Council (sub. 143) and WBBROC (sub. 149 and 150) supported the LGAQ submission.

[98] Lockyer Valley Regional Council, sub. 117.

[99] LGAQ, sub. 115.

[100] QCA, *Statement of Regulatory Pricing Principles for the Water Sector*, December 2000.

[101] Flood mitigation services seek to minimise or manage the effects associated with flooding (excluding extreme flood events). This can be achieved by changing the full supply level of the dam (e.g. increasing the dam wall or spillway height), or by changing how dam operations are managed. To be able to deliver flood mitigation, a dam is typically designed and built with this objective in mind.

### Dam safety upgrade capex

The Seqwater 2018–21 bulk water price review included a number of capex items for dam safety upgrades to Somerset, Lake MacDonald and Leslie Harrison dams.[102] In our assessment of efficiency and prudency we noted that the primary driver for the dam safety upgrades was legislative and regulatory compliance obligations. We considered dam safety upgrades were a compliance cost and therefore a normal cost of operation in supplying water services to customers. Our recommended SEQ bulk water prices recovered the prudent and efficient costs of dam safety upgrades, with the exception of costs associated with Seqwater's declared irrigation services. The proportion of dam safety upgrade costs recovered from SEQ bulk water prices (i.e. non-irrigation customers) was determined using the headworks utilisation factor.

In the Gladstone Area Water Board (GAWB) price monitoring 2015–2020 review, we added capex associated with dam safety upgrades to the regulated asset base and recovered this expenditure through prices.[103] Prices fully recovered capex for spillway upgrades to meet acceptable flood capacity requirements, as well as various other capital works to ensure dam safety compliance.

### Flood mitigation works

We have previously recognised that some dams are designed to deliver services to the broader community, such as providing flood mitigation services to local communities. In the previous Seqwater irrigation review, we considered that expenditure incurred for flood mitigation services in the Central Brisbane River water supply scheme should not be apportioned to irrigators for the following reasons:

- Flood mitigation costs should be shared among all beneficiaries in the community, which was more appropriately achieved through a property-based charge to all members of the community (i.e. through council rates) or through charges applied on consumers in an affected area.
- The benefits to irrigators of flood mitigation services were marginal during normal times and most flood events.
- An appropriate allocation of costs could be achieved through retail water charges.[104]

We calculated the portion of the dam that related to flood mitigation on the basis of the flood storage compartment capacity as a proportion of total capacity including the flood compartment. We determined that the flood mitigation storage accounted for 56 per cent of the total, and on this basis reduced the allocation of renewals costs to irrigators by this proportion.

In the Proserpine River WSS, where Peter Faust Dam has a flood mitigation role, the flood mitigation proportion of costs is allocated to the council as a separate charge and effectively passed through to all council ratepayers, including irrigators, through rate charges. These charges were treated as a revenue offset and deducted from the scheme's total costs.[105]

[102] QCA, *SEQ Bulk Water Price Path 2018–21*, final report, March 2018.
[103] QCA, *Gladstone Area Water Board Price Monitoring 2015–20*, final report, May 2015.
[104] QCA, *Seqwater Irrigation Price Review 2013–17*, Volume 2, Central Brisbane River Water Supply Scheme, final report, April 2013.
[105] QCA, *SunWater Irrigation Price Review 2012–17*, Volume 1, final report, April 2012.

### Approaches in other jurisdictions

Other Australian regulators have recognised that in the case of rural bulk water customers there may be circumstances where other individuals or parties contribute to the need for, or derive benefits from, dam safety upgrades. In some instances, dam safety upgrade capex for rural bulk water supplies is not entirely allocated to direct water users.

#### Independent Pricing and Regulatory Tribunal (NSW)

Since 2001, IPART has allocated WaterNSW's dam safety compliance costs between customers and the government (on behalf of the broader community) using a cost sharing framework based on the 'impactor pays' principle and excluding legacy costs.[106] IPART's rural water cost allocation framework also applies to a range of other activities, including environmental management and planning, as well as work, health and safety compliance costs.

IPART recently completed a review of its cost sharing framework for rural water and decided to:

- continue to allocate rural bulk water costs between water customers and the NSW Government on the basis of the impactor pays principle
- continue to treat the costs of bringing pre-1997 assets up to 1997 dam safety standards as legacy costs, and therefore not reflecting these costs in prices
- increase the general customer share of dam safety compliance costs (excluding legacy costs) from 50 per cent to 80 per cent. IPART said while water customers are the major impactor for dam safety compliance costs, the broader community is a minor impactor to the extent that some costs are associated with flood management activities to manage the risk posed through naturally occurring floods. For valleys with dams that were constructed to provide specific flood mitigation services, the customer share of costs is 50 per cent, reflecting the downstream community being the impactor for the costs associated with this service
- support valley-specific customer cost shares in principle and consider valley-specific customer cost shares in upcoming price reviews (where sufficient information was available to indicate a material difference between a specific valley's cost share ratio and the state-wide cost share ratio).[107]

#### Economic Regulation Authority (Western Australia)

The Water Corporation provides bulk water services to the Harvey Water irrigation area, which provides distribution irrigation services. The agreement between Water Corporation and Harvey Water allows for charges to irrigators to be increased as a result of future dam safety upgrades.

In 2013, the ERA reviewed the prudent and efficient dam safety costs that could be passed through to irrigators. It found that not all dam safety expenditure was efficient, particularly those projects for which the mitigated risk was significantly higher than generally applied for public safety expenditure. On this basis, the ERA determined that $61 million of Water Corporation's total planned dam safety capex of $106 million over the period 1997– 98 to 2019–20 was efficient and should be passed through to irrigators.

[106] Under the 'impactor pays' principle of cost recovery, costs are allocated to individuals or parties whose activities generate the costs, or a justifiable need to incur the costs. Costs required to bring pre-1997 assets up to 1997 dam safety requirements are treated as a legacy costs and are entirely allocated to the government.

[107] IPART, *Rural Water Cost Shares—WaterNSW and Water Administration Ministerial Corporation*, final report, February 2019.

The ERA recognised that irrigators were not the only user of the dams, and considered that it was appropriate to allocate efficient water storage costs (including dam safety upgrade costs) across all parties that benefit from the dams. ERA identified two beneficiaries that benefit from dams:

- private beneficiaries—these beneficiaries make a payment to Water Corporation for their private use of water; they were identified as Harvey Water irrigators and other purchasers of water including a small number of mine sites and households in the region
- public beneficiaries—these beneficiaries included recreational users of dams. The ERA estimated that recreational benefits accounted for approximately 20 per cent of the total benefits created by the dam.[108]

#### Essential Services Commission (Victoria)

Victoria has four water corporations that specifically provide rural water services for irrigation and domestic and stock purposes (Lower Murray, GWM, Goulburn Murray and Southern Rural). The prudent and efficient costs associated with dam safety upgrades are passed through to customers, as dam safety costs are treated as any other form of capex and a normal cost of operation. In some instances, the government has partially funded dam safety capex. Where the government provides grants to contribute to the dam safety upgrade costs, this component of costs is not included in the asset base and therefore not recovered in prices.

## 4.6 Key issues for consideration

Based on issues raised in submissions and workshops, and our own analysis, we have identified the following key considerations for developing and applying an appropriate approach to apportioning dam safety upgrade capex:

- What capex should be included in the dam safety upgrade cost category?
- Who should be allocated dam safety costs and on what basis?
- Are dam safety costs a compliance obligation that would generally be considered a normal cost of operation in supplying water services to users?
- Where a dam has a formal flood mitigation role (e.g. Peter Faust Dam in Proserpine WSS was designed to provide water supply and flood mitigation), should the costs of dam safety upgrades be shared with beneficiaries in the broader community?
- If a dam has flood moderation and/or management benefits for downstream communities, should the costs of dam safety upgrades be shared between water users and beneficiaries in the broader community?
- If costs are allocated to non-water users, should the allocation be done on a dam-specific basis or on a more general basis, perhaps with dam-specific allocations where there is a material difference between the allocation for a particular dam and the general allocation?
- Are there any other reasons for allocating costs to the broader community or other stakeholders?
- How should the allocated costs (if any) be recovered from irrigators?

[108] ERA, *Inquiry into the Efficient Costs and Tariffs of the Water Corporation, Aqwest and the Busselton Water Board*, final report, January 2013.

- What are the impacts on the interests of irrigators of dam safety upgrade costs potentially being included in prices?

## 4.7 Expenditure to be included in the dam safety upgrade cost category

Under the terms of the referral relating to dam safety upgrade expenditure, we are required to recommend two sets of prudent and efficient prices—one of which includes an appropriate allowance for dam safety upgrade capex forecast to be incurred during the pricing period. We have also been asked to develop and apply an appropriate approach to apportioning dam safety upgrade capex, and explain this approach and its application as part of our recommendations. In order to undertake these tasks, we need to determine the prudent and efficient capex that should be included in the dam safety cost category.

### 4.7.1 Sunwater's submission

Sunwater included its proposed Dam Improvement Program (DIP) expenditure in the dam safety upgrade cost category. According to Sunwater, the purpose of the DIP is to:

- ensure the long-term viability of various dams across Sunwater's portfolio in line with current guidelines and design standards
- respond to various factors for each dam, including general wear and tear over time since construction, a greater understanding of existing ground conditions and dam performance following significant flood events and new information arising following routine surveillance activities, inspections, comprehensive risk assessments and dam safety reviews
- respond to industry and state guidelines, including a regulatory obligation to progressively complete dam safety upgrades in accordance with the Queensland Government's guidelines on the acceptable flood capacity for dams.

The following table sets out Sunwater's proposed DIP expenditure from 1 July 2020 to 30 June 2024. More information on how these costs have been forecast is provided in Chapter 3 (Part B report) and in Sunwater's submission.

**Table 3 Sunwater's proposed Dam Improvement Program expenditure forecasts for irrigation pricing purposes ($'000, nominal, as-incurred basis)**

| *WSS* | *2020–21* | *2021–22* | *2022–23* | *2023–24* |
|---|---|---|---|---|
| Barker Barambah | 105 | 403 | 1,101 | 3,386 |
| Bowen Broken Rivers | — | 107 | 275 | 677 |
| Bundaberg | 786 | 1,397 | 28 | — |
| Burdekin-Haughton | 31,642 | 143,423 | 155,216 | 14,028 |
| Macintyre Brook | 734 | 1,708 | 413 | — |
| Nogoa Mackenzie | 9,600 | — | — | — |
| Pioneer River | 3,862 | 403 | — | — |
| Upper Burnett | 105 | 403 | 1,101 | 2,822 |
| Upper Condamine | 11,203 | 806 | — | — |

*Source: Sunwater sub. 11, p. 53.*

### 4.7.2 Seqwater's submission

Seqwater advised that it did not expect to commission any relevant dam safety upgrade projects during the 2020–24 irrigation pricing period. Consequently, it did not propose any dam safety upgrade capex in its submission.

### 4.7.3 Other stakeholders' submissions

Some irrigation stakeholders, including QFF, questioned how we would be able to assess the prudency and efficiency of dam safety upgrade capex, particularly for projects that have only been estimated and may be subject to substantial variation. These stakeholders generally considered that we could not proceed with cost allocation in the absence of detailed specification of works and costs.[109]

Some irrigation and local government stakeholders also considered that legacy costs should be excluded from the dam safety upgrade capex cost category. However, there were differing views as to the type of costs that should be considered legacy costs.

The LGAQ indicated that for assets built before 2000, the QCA should consider adopting a similar approach to that adopted by IPART. IPART has excluded unavoidable legacy costs from the cost base used to determine rural water prices. It has defined legacy costs as 'costs resulting from past users or previous uncommercial investment and management decisions, which are unrelated to the efficient forward-looking cost of providing services to customers'.[110] Under the IPART approach, costs for dam safety upgrades to bring pre–1997 assets to up to 1997 standards are treated as legacy costs and allocated entirely to the government. The LGAQ proposal was supported by a number of local government stakeholders, including Wide Bay Burnett Regional Organisation of Councils and Toowoomba Regional Council.

Cotton Australia considered that dam safety upgrade capex on existing dams should be treated as legacy costs and not included in the cost base.[111] A similar view was expressed by A. Wessel.[112]

### 4.7.4 QCA assessment

Consistent with the referral, we consider that the dam safety cost upgrade category should only include prudent and efficient capex on dam upgrades that are required to meet the dam safety compliance obligations (see section 4.2).

We also consider that capex required primarily for other reasons should be allocated to other more appropriate cost categories, rather than the dam safety upgrade cost category. This is important for the following reasons:

- It is consistent with terms of the referral.
- It recognises that while other dam safety-related capex is an allowable cost, the Government has not yet decided whether any dam safety upgrade capex will be included in the prices to apply from 1 July 2020.
- We propose to treat dam safety upgrade capex differently to other capex (including other dam-safety-related capex).

[109] See for example, BRIA, sub. 53 and 85, QFF, sub. 133; MDIAC, sub. 123; Lower Burdekin Water, sub. 69.
[110] IPART, *Rural Water Cost Shares—WaterNSW and Water Administration Ministerial Corporation*, final report, February 2019, p. 13.
[111] Cotton Australia, sub. 103.
[112] Wessel, A, sub. 147.

As noted above, some stakeholders have proposed that we should take a similar approach to IPART on dam safety upgrade costs and treat dam safety upgrade capex on dams built prior to 2000 (or alternatively, as suggested by Cotton Australia, dam safety upgrade capex on all existing dams) as legacy costs, and consequently allocate all of those costs to the Government.

It is our understanding that IPART's approach to legacy costs reflects a need to bring pre-1997 assets up to 1997 standards, and its previous decision to write infrastructure asset values down to zero as at 1 July 1997.[113] We consider that the circumstances in Queensland are different to those in New South Wales, as the Queensland water businesses' proposed dam safety upgrades are primarily required to maintain compliance with dam safety obligations, rather than address historical issues of non-compliance. The Queensland Government also took a different approach to determining the opening infrastructure asset values, which did not involve writing down those values to zero.

Given those differences, and that we consider the costs of maintaining compliance with existing regulatory obligations and meeting new regulatory obligations are normal costs of doing business (see section 4.8.1), we do not propose to classify all dam safety upgrade capex on dams built prior to 2000 or, alternatively, prior to 2019 as legacy costs.

However, we do consider that there may be limited circumstances in which some dam safety upgrade capex should be treated as a legacy cost. In particular, we consider that direct water users should only be required to pay the prudent and efficient costs of providing the relevant service, not additional costs arising primarily as a result of previous substandard management and/or investment decisions. Such additional costs are more appropriately the responsibility of the dam owner and/or operator.

We consider capex to be prudent if the expenditure can be justified by reference to an identified need or cost driver, such as a legal or regulatory obligation. We consider capex to be efficient if it is the least cost option to deliver on an appropriately defined scope and standard of works. We have assessed the prudency and efficiency of Sunwater's proposed dam safety upgrade capex for the 2020–24 period consistent with our draft positions on the prudent and efficient cost base and legacy costs. We engaged AECOM to provide advice to assist with our assessment. A detailed discussion of the proposed approach to, and outcomes of, our assessment is provided in Chapter 3 (in each of Part B and Part C).

### Draft recommendation 3

We recommend that only prudent and efficient dam safety upgrade capex that is required to meet dam safety obligations should be included in the dam safety upgrade cost category.

## 4.8 Approach to allocating a share of dam safety upgrade capex to irrigation customers

In order to develop a proposed approach to apportioning dam safety upgrade capex, we need to consider the nature of the costs and to whom those costs should be allocated.

[113] IPART, *Department of Land and Water Conservation, Bulk Water Prices from 1 October 2001*, final report, December 2001.

### 4.8.1 Are dam safety costs a compliance obligation that would generally be considered a normal cost of operation in supplying water services to users?

As noted above, our approach in other reviews has been to allow regulated businesses to recover the prudent and efficient costs they need to incur to provide the required service, and meet their legislative and regulatory obligations. Consistent with other legislative and regulatory compliance costs, our approach has been that safety-related costs constitute a normal cost of operation for businesses. That is, compliance costs are passed on to direct users of a service. This approach is consistent with an impactor pays approach whereby costs are allocated to individuals or parties whose activities generate the costs, or a justifiable need to incur the costs.

#### Stakeholders' submissions

Irrigation stakeholders generally indicated that dam safety upgrade capex should not be considered a normal cost of operation in supplying water to customers for the following reasons:

- Under their contract with Sunwater, water users are only paying for a water release service, not a flood mitigation or dam safety service.[114]
- Water users will not gain any benefit or operational improvement from the dam safety upgrades.[115]
- The dam safety upgrades are designed to provide a public benefit to downstream communities, not water users.[116]
- The primary driver for dam safety upgrades is legislative and compliance obligations.[117]
- The upgrades are intended to meet a government objective and the costs should therefore be met by a government community service obligation (CSO) payment.[118]

Consequently, irrigation stakeholders generally did not support a share of dam safety upgrade capex being allocated to water users. Instead, they generally considered that the costs of dam safety upgrades should be allocated to the broader community and/or the government, rather than water users.

#### QCA assessment

We consider that our general approach in previous reviews is an appropriate foundation for developing an approach to apportioning dam safety upgrade capex in the irrigation water pricing context. Dams in Queensland have generally been built for the primary purpose of supplying water to users. In order to provide that service, the water businesses must comply with a range of regulatory obligations, including dam safety requirements. It is our understanding that those dam safety requirements are the primary driver for the planned dam safety upgrades.

[114] QFF, sub. 133; BRIA, sub. 85.
[115] Central Highlands Cotton Growers and Irrigators Association, sub. 100; Central Highlands Regional Council, sub. 101; Fairbairn Irrigation Network, sub. 104; Kalamia Cane Growers, sub. 111; PV Water, sub. 130.
[116] Canegrowers, sub. 91; Central Downs Irrigators, sub. 98; Lower Burdekin Water, sub. 118; MDIAC, sub. 123; Superior Production Co, sub. 138.
[117] QFF, sub. 133.
[118] Canegrowers, sub. 91.

A number of irrigation stakeholders, including QFF and BRIA, proposed an alternative view, which is that dam safety upgrades should be characterised as a separate dam safety and/or informal flood mitigation service provided by Sunwater, in addition to its other water services. We consider that dam safety requirements are a regulatory obligation that Sunwater must comply with in order to provide water services to its customers. Consistent with our characterisation of dam safety upgrades as a regulatory obligation, we consider that it is not necessary for water users to obtain a direct benefit or operational improvement from dam safety upgrades in order for them to be allocated a share of the costs.

We consider that costs arising primarily as a result of legislative and regulatory obligations—even where triggered by the actions of other parties or government (for example, downstream developments or the introduction of new regulatory obligations)—are a cost of doing business, as they are in any other industry.

As dam safety upgrades are a compliance cost, we are of the view that treating the dam safety upgrade capex as a normal cost of operation in supplying water services to customers is transparent and will help to signal the efficient cost of providing water supply services to irrigation customers (noting that any price signal may be tempered by the Government's pricing principles). This in turn may help to encourage efficient consumption and investment decisions. Such an approach would generally be consistent with IPART's approach in its review of rural water cost shares (February 2019).[119]

Therefore we propose that dam safety upgrade capex should be treated as a normal cost of operation in supplying water services to users and consequently allocated to water users unless there is a clear and justifiable basis for allocating some of the costs to other parties (including the Government and/or the broader community).

### Draft recommendation 4

We recommend that dam safety upgrade capex:

- be treated as a normal cost of operation in supplying water services to users
- be allocated to water users unless there is a clear and justifiable basis for allocating some of the costs to other parties.

### 4.8.2 Where a dam has a formal flood mitigation role, should dam safety upgrade costs be shared with beneficiaries in the broader community?

Flood mitigation services seek to minimise or manage the effects associated with flooding (excluding extreme flood events). This can be achieved by changing the full supply level of the dam (for example, increasing the dam wall or spillway height), or by changing how dam operations are managed. To be able to deliver flood mitigation, a dam is typically designed and built with this objective in mind.

As noted in section 4.5 above, the QCA and other Australian regulators have previously recognised that some dams are designed to provide services to the broader community, such as providing flood mitigation services to local communities.

[119] In that review, IPART considered that water users were the major impactor for dam safety and compliance activities and should therefore be allocated the bulk (80 per cent) of the efficient costs associated with these activities.

#### Stakeholders' submissions

Stakeholder comments on this issue were limited, but this is not surprising given that only a small number of dams supplying water to irrigators have a formal flood mitigation role and none of these dams have planned dam safety upgrades during the irrigation pricing period.

Central Highlands Regional Council and Superior Production Co indicated it was not appropriate to separate dams that had a formal flood mitigation role from dams that had large informal flood mitigation benefits.[120]

#### QCA assessment

We consider it is important to distinguish between dams that provide formal flood mitigation services (flood mitigation dams) and those that may have informal flood management benefits. This is because flood mitigation is a core service provided by flood mitigation dams and operations at those dams are managed to deliver that service. In contrast, dams that do not provide formal flood mitigation services are generally managed to provide water services and any flood mitigation is likely to be incidental to the provision of those other services.

Consistent with our approach in previous reviews, we consider that where a dam has formal flood mitigation role, it should be recognised in allocating costs. Therefore, we propose that where a dam has a formal flood mitigation role, the costs of dam safety upgrades should be shared with beneficiaries in the broader community. We note that the proposed approach on this issue is consistent with our approach in previous reviews and with IPART's approach in its review of rural water cost shares.

### Draft recommendation 5

We recommend that where a dam provides a formal flood mitigation service:

- that service should be recognised in the allocation of costs, including dam safety upgrade costs
- the costs associated with that service should not be apportioned to irrigators and should instead be allocated to the beneficiaries of that service (where possible) or the broader community.

### 4.8.3 If a dam has informal flood moderation and/or management benefits for downstream communities, should the costs of dam safety upgrades be shared between water users and the other beneficiaries?

Some dams that do not have a formal flood mitigation role may still provide informal flood moderation and/or management benefits for downstream communities. This is because a dam may, to some extent, absorb and/or regulate floodwaters that would otherwise flow downstream.

In previous reviews, where a dam had an informal flood moderation or management benefits, we did not share the costs of dam safety upgrades with beneficiaries in the broader community. However, other Australian regulators have recognised informal flood moderation and

[120] Central Highlands Regional Council, sub. 101; Superior Production Co, sub. 138.

management benefits in allocating dam safety costs. In its review of rural cost shares[121], IPART considered that:

(a) Dam safety and compliance activities included informal flood management activities to some extent.

(b) The broader community could be considered an impactor for informal flood management activities to the extent that a dam's informal flood management function reduced the probability of flood occurrence.

(c) Consequently, there was a case to allocate some of the costs associated with dam safety and compliance activities (20 per cent) to the NSW Government on behalf of the broader community.

### Stakeholders' submissions

Many irrigation and local government stakeholders proposed that the broader community should be allocated some or all of the relevant dam safety upgrade costs on the basis that dams that did not have a formal flood mitigation role still provided informal flood moderation and/or management benefits for downstream communities.[122] By providing this benefit, stakeholders considered that the dam reduced the probability and/or severity of naturally occurring floods, thereby benefitting downstream communities. Some irrigation stakeholders were also of the view that the dam safety upgrades were likely to provide additional flood protection for downstream communities and infrastructure (for example, roads and bridges).[123]

### QCA assessment

We note that the flood management and/or moderation benefits associated with dam safety upgrades in Queensland appear to be incidental to the primary purpose of the dams (water supply) and the upgrades (mitigating dam failure risks). That is, flood moderation and management activities, while providing a benefit to the broader community, are neither a formal service provided by dam managers, nor the primary rationale for dam safety upgrades.

That said, we acknowledge that downstream communities may benefit from the planned dam safety upgrades. In particular, the upgrades may reduce the probability and/or severity of flooding and consequent property and infrastructure damage in downstream communities. It is also possible that these communities may avoid some flood mitigation and insurance costs as a result of the upgrades.

In light of those benefits, we consider that there is a case for sharing some of the costs of dam safety upgrades with the beneficiaries in the broader community where the upgrades will result in improved flood moderation or management.

[121] IPART, *Rural Water Cost Shares—WaterNSW and Water Administration Ministerial Corporation*, final report, February 2019.
[122] See for example, QFF, sub 133; BRIA, sub. 85; Canegrowers, sub. 91; Cotton Australia, sub. 103.
[123] See, for example, Canegrowers Isis, sub. 93; Central Downs Irrigators, sub. 98; Cotton Australia, sub. 103; Theodore Water, sub. 141; Three Moon Creek IAC, sub. 142.

### Draft recommendation 6

We recommend that while the primary purpose of dam safety upgrades is to reduce the risks of dam failure to tolerable levels (as determined by the relevant dam safety regulators), the informal flood moderation benefits for communities downstream of dams should be acknowledged in the allocation of dam safety upgrade capex.

#### 4.8.4 If some of the costs are allocated to non-water users in recognition of informal flood moderation and/or management benefits, should the allocation be done on dam-specific basis or on a more general basis?

If a dam has informal flood moderation and/or management benefits for downstream communities and those benefits are to be recognised in the allocation of dam safety upgrade capex, we need to consider how to allocate the relevant costs between water users and the broader community.

As noted above, where a dam had an informal flood moderation or management benefits, we have not previously shared the costs of dam safety upgrades with beneficiaries in the broader community. IPART, in its review of rural water cost shares, adopted a general allocation (an allocation 80 per cent to water users and 20 per cent to the broader community / the NSW Government) and indicated it would only use dam-specific allocations where there was a material difference between that general allocation and the allocation for a particular dam.

##### QCA assessment

Undertaking a more granular, dam-specific assessment of informal flood moderation or management benefits for each dam safety upgrade project may potentially result in an allocation that better reflects the benefits. However, we note that this approach would add an additional layer of complexity and cost to irrigation water pricing. It would also provide less certainty to stakeholders, as they would not have clarity on the potential allocation of the costs of a given dam safety upgrade project until the detailed, dam-specific assessment had been completed.

In contrast, a more general allocation approach would be simpler and less costly. It would also provide stakeholders with greater certainty as the proposed allocation would generally not be dependent on the completion of a dam-specific assessment. However, it may result in an allocation that does not reflect the benefits of a given dam as well as a dam-specific assessment.

On balance, we consider that the benefits of a dam-specific approach would not outweigh the additional cost and complexity involved. We propose to adopt an approach consistent with that taken by IPART in its review of rural water cost shares—that is, to adopt a general allocation ratio and to use dam-specific allocation ratios only where there is sufficient evidence of a material difference between the general allocation and the appropriate allocation for a particular dam.

We note that determining the extent to which dam safety upgrade costs should be allocated to the broader community involves a degree of judgment on our part and as such may be

controversial.[124] We also note that it is likely that there will be a range of different views on the appropriate cost share for the broader community. In developing our proposed approach, we have sought to recommend a general allocation that we consider represents a reasonable apportionment of dam safety upgrade capex between water users and the broader community.

Given that dams in Queensland have generally been built for the primary purpose of supplying water to users, and that the key objective of the dam safety upgrades is to reduce the risk of dam failure to an acceptable level (as determined by the relevant dam safety regulators), we consider that water users should be allocated the majority of dam safety upgrade capex. If the dam did not exist, there would be no risk of failure to address and consequently no dam safety obligations to meet.

However, as noted above, we consider that the informal flood moderation benefits for communities downstream of dams should be acknowledged in the allocation of dam safety upgrade capex. As the external positive benefits that may potentially accrue to the broader community cannot be quantified easily, we have exercised our judgment in determining the reduction to apply to the irrigation water users' allocation and consider that they should only be allocated 80 per cent of their share of dam safety upgrade capex. We propose that the remaining 20 per cent of the irrigator water users' share of dam safety upgrade capex be allocated to the Government, as it is not feasible to allocate this share of costs to individual beneficiaries in the broader community.

We consider that this allocation is appropriate, as it recognises that the dams that are within the scope of this pricing review have generally been built for the primary purpose of supplying water to users, whilst acknowledging that these dams may provide some incidental flood moderation benefits to the broader community.

We note that IPART considered a similar issue in its report on rural water shares and concluded that 80 per cent of the costs associated with dam safety obligations should be allocated to water users, as the relevant dams were primarily constructed to meet their water needs.[125]

[124] For a detailed discussion of the allocation of costs to government, see Biggar, D, *The allocation of costs between government and users in regulation of wholesale water service providers in New South Wales*, ACCC/AER working paper series, no. 7, September 2012.

[125] IPART, *Rural Water Cost Shares—WaterNSW and Water Administration Ministerial Corporation*, final report, February 2019; Aither, *Rural water cost sharing review*, final report, prepared for IPART, 2019.

### Draft recommendation 7

We propose that, for dams that do not provide a formal flood mitigation service and are within the scope of this pricing review, dam safety upgrade capex should be:

- allocated using a general allocation ratio, with dam-specific allocation ratios only used where there is sufficient evidence of a material difference between the general allocation and the appropriate allocation for a particular dam
- the general allocation ratio for dam safety upgrade capex should allocate 80 per cent of the irrigation share of these costs to irrigation water users. The remaining 20 per cent should not be included in the allowable cost base for irrigation pricing purposes.

### 4.8.5 Are there any other reasons for allocating costs to the broader community or other stakeholders?

In developing an approach to apportioning dam safety upgrade capex, we also need to consider whether there are any reasons other than those identified above for allocating costs to the broader community or other stakeholders.

#### Stakeholders' submissions

Irrigation and local government stakeholders have indicated that there are a number of reasons for allocating some or all of the relevant dam safety upgrade costs to the Government and/or the broader community. These reasons include:

- The provision of water for irrigation purposes generates benefits beyond those that accrue to irrigators. It contributes to the social and economic fabric of regional communities and there are significant public benefits that flow from vibrant regional communities.[126]
- The schemes were originally built (and priced) to encourage regional development and investment.[127]
- The contributions and expected outcomes that were defined in the creation of the dam should reasonably apply to its continued operation that requires dam safety upgrades (that is, historical contributions and subsidies provided by the Government should be taken into account when allocating the costs of dam safety upgrades).[128]
- Dam safety upgrade costs have previously been excluded from the allowable cost base for irrigation pricing and this led irrigators to assume that the Government would continue to subsidise these costs and they have made investment decisions based on this assumption.[129]
- The Government has paid for dam safety upgrades at some dams in the past and therefore should, on fairness grounds, be allocated the costs for future projects.[130]

[126] See for example, Canegrowers, sub. 91; Kalamia Cane Growers Organisation, sub. 111; BRIA, sub. 85.
[127] BRIA, sub. 85. p. 20, 23.
[128] LGAQ, sub. 115, p. 13.
[129] See for example, Canegrowers Isis, sub. 93, p. 5; Central Highlands Cotton Growers and Irrigators Association, sub. 100, p. 4; QFF, sub. 133, p. 7.
[130] See for example, LGAQ, sub. 115, p. 8; BRIA, sub. 85, p. 16; Lower Burdekin Water, sub. 118, p. 12; QFF, sub. 133, p. 7.

- The decision to invest in water entitlements was made on the basis of the conditions that existed at the time of investment—including dam safety requirements and population at risk—and the payment of a one-off upfront capital contribution.[131]
- The costs associated with dam safety upgrades are so large that irrigators may never have invested in the relevant water entitlements.[132]
- Irrigation customers cannot afford to pay prices that include an allowance for dam safety upgrade capex.[133]
- Higher water prices will have an adverse impact on local communities.[134]
- The change in fixed charges may impact on capital value of allocations and cause a major equity shift away from irrigation customers.[135]

#### QCA assessment

Given that the primary purpose of dam safety upgrades is to reduce the risks of dam failure to tolerable levels (as determined by the relevant dam safety regulators—see section 4.2 for more information), and that we have recognised the formal and informal flood moderation benefits for downstream communities, we do not consider that there are other reasons that warrant allocating costs to the broader community or other stakeholders.

We also consider that the Government is best placed to take into account the above stakeholder concerns when it makes the decision on which set of prices it will apply.

## 4.9 Approach to recovering allocated dam safety upgrade capex from irrigation customers

This issue is dealt with in detail in Chapter 4 (section 4.3 in each of Part B and Part C reports).

## 4.10 Inclusion of dam safety upgrade capex in prices—potential impacts on irrigation customers

The inclusion of dam safety upgrade capex in prices may have a range of potential impacts on irrigation customers.

### 4.10.1 Stakeholders' submissions

Many irrigation stakeholders expressed concern about the adverse impact that higher water prices might have on individual irrigation customers, the overall viability of some irrigation schemes and local communities (as a result of reduced agricultural activity and employment).[136] For example, BRIA was of the view that dam-safety-inclusive prices would result in a substantial reduction in agriculture in the region, as those prices would be too high for many customers to afford. BRIA also noted that sugarcane had relatively low returns but is well suited to the

[131] BRIA, sub. 85, p. 22.
[132] Cotton Australia, sub. 103, p. 2.
[133] BRIA, sub. 85, pp. 15, 18, 19, 22.
[134] See for example, Central Highlands Regional Council, sub. 101, p. 5; BRIA, sub. 85, pp. 15, 19, 22.
[135] QFF, sub. 133, p. 7.
[136] See for example, Canegrowers, sub. 91; Invicta Cane Growers Organisation, sub. 109; Kalamia Cane Growers, sub. 111; BRIA, sub. 85; Lower Burdekin Water, sub. 69; QFF, sub. 133; Superior Production Co, sub. 138.

Burdekin area and considered that it was not possible for affected irrigators to transition to an alternative crop.[137]

### 4.10.2 QCA assessment

The inclusion of dam safety upgrade capex would increase prices for customers in the affected schemes. However, the impact in the next pricing period (if the dam safety upgrade capex inclusive prices are adopted) is limited due to the timing of the projects and our approach to calculating prices. Table 4 below provides an overview of the potential longer-term price impacts.

**Table 4 Price impacts associated with inclusion of dam safety upgrade capex allowance ($2020–21)**

| *Scheme* | *Year of commissioning* | *Impact on 2020–21 cost-reflective price ($/ML WAE)* | *Impact on 2020–21 recommended price ($/ML WAE)[a]* | *Impact on cost-reflective price in year after commissioning ($/ML WAE)[b]* |
|---|---|---|---|---|
| Barker Barambah WSS | 2028 | – | – | 22.14 |
| Bowen Broken Rivers WSS | 2027 | – | – | – |
| Bundaberg WSS | 2027 | – | – | 0.25 |
| Bundaberg distribution system | 2027 | – | – | 0.22 |
| Burdekin-Haughton WSS | 2025 | – | – | 10.21 |
| Burdekin-Haughton distribution system | 2025 | – | – | 1.81 |
| Central Brisbane River WSS[c] | 2026 | – | – | 4.91 |
| Macintyre Brook WSS | 2023 | 1.34 | – | 3.67 |
| Nogoa-Mackenzie WSS (MP)[d] | 2021 | 1.05 | 1.05 | 1.21 |
| Nogoa-Mackenzie WSS (HP)[d] | 2021 | 10.82 | – | 12.49 |
| Pioneer River WSS | 2023 | 0.46 | – | 1.25 |
| Upper Burnett WSS | 2026 | – | – | 9.34 |
| Upper Condamine WSS | 2022 | 0.77 | 0.77 | 1.26 |

*Notes: **a** While there are five schemes in the above table where the inclusion of a dam safety upgrade capex allowance will impact on the 2020–21 cost-reflective price, the inclusion of the allowance will not result in higher recommended prices over the price path period for most of those schemes. This is because the relevant tariff groups for those schemes remain above or below the lower bound cost target over the price path period. However, the inclusion of the allowance will result in a higher recommended price for three schemes: Nogoa Mackenzie (medium priority local management supply) (from 2020–21), Pioneer River (from 2021–22) and Upper Condamine—North Branch—Risk A (from 2020–21). **b** Impact in year following commissioning reflects the return on and of capital in the first full year after commissioning. This impact is derived based on Sunwater's adjusted forecast capex for pricing purposes, which adjusted forecast capex by 50 per cent for projects at a preliminary business case stage. **c** This relates to the Somerset Dam safety upgrade project that we assessed as part of our 2018–21 Seqwater bulk water price review. **d** Nogoa-Mackenzie WSS has irrigation tariff groups for medium priority (MP) and high priority (HP) irrigation customers.*

*Source: Sunwater response to QCA RFI 58; QCA 2018, Seqwater Bulk Water Price Review 2018–21, final report, March 2018; QCA analysis.*

[137] BRIA, sub. 85, p. 22.

We note that most stakeholders are concerned about the potential impacts of any dam safety upgrade capex being included in prices. However, the decision regarding which set of prices is to apply is a matter for the Government when it determines prices for the pricing period. Given that the potential impacts and equity concerns raised by stakeholders primarily relate to whether dam safety upgrade capex is included at all in prices, we consider that the Government is best placed to take those matters into account when it makes that decision.

## 4.11 Other issues

A number of stakeholders raised issues that are relevant to developing an approach to apportioning dam safety upgrade capex, but which are not addressed elsewhere in this chapter. These issues are discussed in more detail below.

### 4.11.1 Transitional arrangements

Kinchant Dam Water Users Association considered that if dam safety upgrade costs were included in prices it would be a significant variation to the parameters that most irrigators would have considered when they entered the scheme. It was of the view that there should be corresponding changes to the 'locked in' nature of the entitlements that irrigation customers hold to allow those customers to surrender part or all of their entitlements.[138]

We acknowledge this concern and address it in Chapter 2.

### 4.11.2 Cost shifting

The LGAQ considered that the QCA should be careful that the costs were not shifted to other parties in the event that the allocation of costs to irrigation customers was reduced. It was also of the view that the inability of irrigation customers to meet all dam safety costs should not absolve them of any responsibility for dam safety costs.[139]

We note these concerns, but the terms of the referral limit the application of our proposed approach to apportioning dam safety upgrade capex and the accompanying recommended prices to irrigation customers in the specified water supply schemes and distribution systems. The allocation of dam safety upgrade capex across non-irrigation customers in those schemes (for example, industrial customers and local government), and the prices paid by those customers, are not within the scope of this review and are matters for Sunwater and Seqwater.

[138] Kinchant Dam Water Users Association, sub. 112, p. 9.
[139] LGAQ, sub. 115, p. 14.

# GLOSSARY

| | |
|---|---|
| 2012 review | the QCA's review of irrigation prices charged by Sunwater for the period 1 July 2012 to 30 June 2017, which was completed in May 2012 |
| 2013 review | the QCA's review of irrigation prices charged by Seqwater for the period 1 July 2013 to 30 June 2017, which was completed in April 2013 |
| 2018–21 Seqwater review | the QCA's review of south east Queensland bulk water prices for the period 1 July 2018 to 30 June 2021, which was completed in March 2018 |
| ABS | Australian Bureau of Statistics |
| ACCC | Australian Competition and Consumer Commission |
| AER | Australian Energy Regulator |
| AFC | acceptable flood capacity |
| ALARP | as low as reasonably practicable |
| ANCOLD | Australian National Committee on Large Dams |
| ARR | asset restoration reserve |
| BRC | Bundaberg Regional Council |
| BRIA Irrigators | Burdekin River Irrigation Area Irrigators Ltd |
| BRIG | Bundaberg Regional Irrigators Group |
| capex | capital expenditure |
| CPI | consumer price index |
| CSO | community service obligation |
| DEWS | Queensland Department of Energy and Water Supply (now the Queensland Department of Natural Resources, Mines and Energy) |
| DNRM | Queensland Department of Natural Resources and Mines (now the Queensland Department of Natural Resources, Mines and Energy) |
| DNRME | Department of Natural Resources, Mines and Energy, Queensland Government |
| EFO | environmental flow objective |
| ERA | Economic Regulation Authority, Western Australia |
| ESC | Essential Services Commission of South Australia |
| ESCOSA | Essential Services Commission of South Australia |
| GAWB | Gladstone Area Water Board |
| HUF | headworks utilisation factor |
| IAC | Irrigator Advisory Committee |
| IPART | Independent Pricing and Regulatory Tribunal, New South Wales |
| LGAQ | Local Government Association of Queensland |
| LMA | local management arrangements |
| MDIAC | Mareeba Dimbulah Irrigation Area Council |
| ML | megalitre |

| | |
|---|---|
| NSP | network service plan |
| NSW | New South Wales |
| NWI | National Water Initiative |
| opex | operating expenditure |
| Part A price | a fixed price per megalitre of annual WAE, intended to recover the fixed costs associated with operating, maintaining, administering and renewing the bulk WSS |
| Part B price | a price per megalitre of annual usage, intended to recover the bulk variable costs associated with the actual delivery (usage) of water |
| Part C price | a fixed price per megalitre of annual WAE, intended to recover all distribution system fixed costs |
| Part D price | a price per megalitre of annual usage, intended to recover the distribution system variable costs associated with the actual delivery (usage) of water |
| QCA | Queensland Competition Authority |
| QCA Act | Queensland Competition Authority Act 1997 |
| QFF | Queensland Farmers' Federation |
| RAB | regulatory asset base |
| RBA | Reserve Bank of Australia |
| RFI | request for information |
| ROL | resource operations licence |
| ROP | resource operations plan |
| SEQ | south east Queensland |
| the Government | the Queensland Government |
| the referral | the referral for the review issued by the Government to the QCA under section 23 of the QCA Act |
| WAE | water access entitlement |
| WBBROC | Wide Bay Burnett Regional Organisation of Councils |
| WASO | water allocation security objective |
| WMP | water management protocol |
| WP | water plan |
| WPI | wage price index |
| WSS | water supply scheme |
| WSSR Act | Water Supply (Safety and Reliability) Act 2008 |

# APPENDIX A: REFERRAL

Queensland Government

Deputy Premier
Treasurer
Minister for Aboriginal and Torres Strait Islander Partnerships

1 William Street
GPO Box 611 Brisbane
Queensland 4001 Australia
**Telephone** +61 7 3719 7100
**Email** deputy.premier@ministerial.qld.gov.au

ABN 90 856 020 239

*Our Ref: 01852-2018*

29 OCT 2018

Professor Flavio Menezes
Chair
Queensland Competition Authority
GPO Box 2257
BRISBANE QLD 4001

Dear Professor Menezes Flavio,

Please find enclosed a referral notice issued under section 23 of the *Queensland Competition Authority Act 1997*, referring the relevant monopoly business activities of SunWater and Seqwater to the Queensland Competition Authority (the Authority) for an investigation about pricing practices in relation to rural irrigation prices to apply from 1 July 2020 to 30 June 2024.

I appreciate the Authority's continued involvement in ensuring rural irrigation prices have effective regulatory oversight.

I am advised that officers from Queensland Treasury have consulted with the Authority in the preparation of this referral notice. SunWater and Seqwater have also been advised of this investigation and have been encouraged to work closely with the Authority to ensure the reporting timeframes for the review are met.

Should you have any queries regarding this matter, please contact Mr Dennis Molloy, Assistant Under Treasurer, Shareholder and Structural Policy Division on (07) 3035 1988.

Yours sincerely

**JACKIE TRAD MP**
**DEPUTY PREMIER**
**Treasurer**
**Minister for Aboriginal and Torres Strait Islander Partnerships**

Encl.

Cc: The Honourable Dr Anthony Lynham MP,
Minister for Natural Resources, Mines and Energy

QUEENSLAND COMPETITION AUTHORITY ACT 1997
Section 23 and Section 24

REFERRAL AND DIRECTION NOTICE

**A Section 23 – Referral**

(1.1) As the Treasurer of Queensland, under section 23 of the Queensland Competition Authority Act 1997 (the Act), I refer the monopoly business activities of SunWater and the Queensland Bulk Water Supply Authority (trading as Seqwater) (the businesses) described in paragraph A(1.2) to the Queensland Competition Authority (the Authority) for an investigation about pricing practices relating to those activities.

(1.2) The monopoly business activities are:

- the bulk water storage and water distribution undertaken by SunWater; and
- the bulk water supply undertaken by Seqwater,

to the extent those activities are:

- undertaken for an irrigation service as defined in the *Water Act 2000*[1]; and
- in the water supply schemes and distribution systems (WSS) set out in Schedule 1 excluding water services provided by Burnett Water Pty Ltd in relation to Paradise Dam and Kirar Weir, consistent with the Authority's Final Report SunWater Irrigation Price Review: 2012-17 Volume 1.

**B Section 24 – Directions**

(1.1) Under section 24 of the Act, I direct the Authority to make recommendations about the following matters:

(a) appropriate prices (including drainage prices, water harvesting prices and termination fees for relevant WSS) to be charged by the businesses for the period of 1 July 2020 to 30 June 2024 (the price path period) in relation to the monopoly business activities specified in paragraph A(1.2), subject to paragraph C(1.7); and
(b) appropriate price review triggers and other mechanisms, to manage the risks associated with material changes in the allowable costs identified in paragraph C(1.2) outside the control of the businesses.

[1] For clarity, an irrigation service is defined in Schedule 4 of the *Water Act 2000* as the supply of water or drainage services for irrigation of crops or pastures for commercial gain.

(1.2) The recommendations made by the Authority under B(1.1) should include two sets of appropriate prices in relation to prudent and efficient capital expenditure associated with dam safety upgrades, one set where all dam safety upgrade capital expenditure is excluded and one set where an appropriate allowance for capital expenditure forecast to be incurred from 1 July 2020 onwards is included. The recommendations made by the Authority are not required to specify which set of prices are to apply.

(1.3) In making its recommendations under B(1.2), the Authority is to develop and apply an appropriate approach for apportioning dam safety upgrade capital expenditure and explain this approach and its application as part of its recommendations.

(1.4) The recommendations made by the Authority under B(1.1) should adopt the current tariff groups for all WSS, other than where the Authority develops alternative tariff groups for the categories of prices listed in Schedule 3 as required under paragraph B(1.5).

(1.5) The Authority is to review the tariff groups for the categories of prices listed in Schedule 3 and develop alternative tariff groups. The recommendations made by the Authority should include two sets of appropriate prices, one set which maintains the current tariff groups and one set based on the alternative tariff groups. The recommendations made by the Authority are not required to specify which set of prices are to apply.

(1.6) Under section 24 of the Act, I direct the Authority to consider the stated matters listed as "Matters for consideration in making recommendations" in paragraph C when conducting the investigation and making the recommendations under paragraph B.

**C Matters for consideration in making recommendations**

(1.1) The Authority is to apply the Principles in Schedule 2 in recommending appropriate prices under this Notice. However, where the Authority is recommending appropriate prices that include dam safety upgrade capital expenditure under paragraph B(1.2) or for alternative tariff groups under paragraph B(1.5), the Authority may apply the Principles in Schedule 2 as it considers appropriate.

(1.2) The Authority is to consider the following matters in relation to costs and in recommending appropriate prices under this Notice:

(a) Subject to paragraphs C(1.1), C(1.3) and C(1.7) the following costs are to be recovered over the price path period,:

i. prudent and efficient operational, maintenance and administrative costs[2] (for clarity, this may include an end-of-period adjustment relating to historical costs that were unforeseen and unable to be managed, on the basis of changing market conditions for inputs or the result of regulatory imposts, and in accordance with the Authority's recommendations from its May 2012[3] and April 2013[4] reports); and

ii. an appropriate allowance for prudent and efficient expenditure on renewing existing assets[5] (for clarity, this allowance should also account for prudent and efficient renewals expenditure incurred in the previous price path periods).

(b) For the avoidance of doubt, costs recovered under paragraph C(1.2)(a) are to include the following:

i. costs incurred by the businesses to implement the 2015 recommendations made by the Inspector-General Emergency Management;

ii. costs that are required to meet regulatory obligations or deliver agreed service levels, where costs to deliver agreed service levels are not materially higher than the costs of like-for-like replacement or modern equivalent replacement; and

iii. regulatory fees charged by the Authority to the businesses to make the recommendations under this Notice up to $2.5 million. For clarity, the Authority should detail the total cost incurred by the Authority in making the recommendations under this Notice.

(c) for clarity, the value of the asset base for existing assets (as at 1 July 2000) should not be considered.

(1.3) Costs associated with the provision of recreation facilities that are incurred by the businesses from 1 July 2020 onwards that would not otherwise be incurred to supply water, are not to be included, unless the Authority is satisfied that there is customer support for these costs to remain included.

(1.4) Subject to paragraphs C(1.1) and C(1.2) (above), the Authority should have regard to:

(a) balancing the legitimate commercial interests of the businesses with the interests of their customers, including considering less than cost reflective volumetric prices which are necessary to moderate bill impacts for customers, and

(b) ensuring, where possible, that revenue and pricing outcomes are both simple and transparent for customers.

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[2] Including an allowance for tax (where applicable).
[3] Final Report, SunWater Irrigation Price Review 2012-17, Volume 1.
[4] Final Report, Seqwater Irrigation Price Review 2013-17, Volume 1.
[5] Existing assets are assets commissioned prior to 1 July 2000. Expenditure on renewing assets should not include costs associated with augmentation of existing assets or new assets, subject to paragraph C(1.7).

(1.5) Where the Authority considers that it has been demonstrated that customers have agreed to the costs and/or prices proposed by the businesses and the Authority considers that the proposed prices are in line with the requirements of this Notice, the Authority must have regard to these agreements in recommending appropriate prices.

(1.6) Where relevant, the findings of the Authority's investigation of Seqwater's bulk water prices for the 2018-21 period should be taken into account in recommending appropriate prices.

(1.7) For the purposes of this Notice, the recommended appropriate prices should not recover costs associated with augmentation of existing assets, new assets[6] or any capital expenditure which is not like-for-like or modern equivalent replacement or does not reflect a regulatory requirement unless the Authority is satisfied that the costs will generate net positive benefits for existing customers and customers have been consulted. Where the Authority is not so satisfied, prices to recover these costs are a commercial matter for the businesses to negotiate with customers.

(1.8) The Authority should consider and analyse how its recommended appropriate prices might be reflected in customer bills for each tariff group in all WSS (excluding drainage prices, water harvesting prices and termination fees) and provide this analysis and estimated customer bills as part of its recommendations.

**D. Consultation**

The Authority must undertake an open consultation process with all relevant parties, as required by section 25 of the Act, and consider submissions within the timetable for the delivery of the Final Report to the Treasurer detailed in paragraph E. All reports and submissions must be made publicly available, including on the Authority's website.

**E. Timing**

(1.1) The notice given and published by the Authority under section 25 of the Act on receipt of this Referral and Direction Notice, must require submissions on proposed costs (and supporting information) to be made to the Authority by the businesses by no later than 30 November 2018.

(1.2) The Authority must provide to the Treasurer and the Minister for Natural Resources, Mines and Energy the:
(a) Draft Report by no later than 31 August 2019; and
(b) Final Report and recommended price paths by no later than 31 January 2020.

(1.3) The Final Report will inform the Treasurer's and Minister for Natural Resources, Mines and Energy's deliberations in determining price paths to apply for the period from 1 July 2020 to 30 June 2024 by direction under section 999 of the *Water Act 2000* in relation to SunWater and under section 1013D of the *Water Act 2000* in relation to Seqwater.

[6] New assets are assets commissioned after 1 July 2000.

**F. Other matters**

(1.1) For the avoidance of doubt, nothing in this Notice prevents the businesses from negotiating full commercial prices to supply water other than for the monopoly business activities described in paragraph A(1.2).

(1.2) The Authority may exercise all the powers under Part 6 of the *Queensland Competition Authority Act 1997* in undertaking the investigation under this Notice.

**HON. JACKIE TRAD MP**
DEPUTY PREMIER
Treasurer
Minister for Aboriginal and Torres Strait Islander Partnerships

**Schedule 1**

Water Supply Schemes operated by SunWater

Barker Barambah
Bowen Broken Rivers
Boyne River and Tarong
Bundaberg
Burdekin-Haughton
Callide Valley
Chinchilla Weir
Cunnamulla
Dawson Valley
Eton
Lower Mary
Lower Fitzroy
Macintyre Brook
Maranoa River
Mareeba-Dimbulah
Nogoa-Mackenzie
Pioneer River
Proserpine River
St George
Three Moon Creek
Upper Burnett
Upper Condamine

Distribution Systems operated by SunWater
Bundaberg
Burdekin-Haughton
Eton
Emerald
Lower Mary
Mareeba-Dimbulah
Theodore

Water Supply Schemes operated by Seqwater
Cedar Pocket
Central Brisbane River
Central Lockyer Valley
Logan River
Lower Lockyer Valley
Mary Valley
Warrill Valley

Distribution Systems operated by Seqwater
Morton Vale Pipeline
Pie Creek

Note: Where the Authority is advised before publication of its Draft Report that final agreement has been reached on the terms to transfer operation of a distribution system owned by SunWater to a local customer owned company or co-operative, then the Authority is not to provide prices to recover the cost of the infrastructure for this distribution system.

**Schedule 2**

Principles

A. Prices are to be based on all tariff groups transitioning to cost-reflective prices. Cost-reflective prices reflect the costs in paragraph C(1.2) and increase by the Authority's measure of inflation over the price path period.

B. In considering tariff structures, regard should be had to the fixed and variable nature of the underlying costs.

C. Fixed (Part A and Part C) prices are to be derived independently of Volumetric (Part B and Part D) prices.

D. For water supply schemes where the only fixed price applicable is the Fixed (Part A) price:
   i. if the prevailing[7] Fixed (Part A) price is above the initial[8] cost-reflective Fixed (Part A) price, the prevailing Fixed (Part A) price should be maintained in nominal terms over the price path period until the cost-reflective Fixed (Part A) price is reached, with the exception of Fixed (Part A) prices which apply to customers of a distribution system operated by a local customer owned company or co-operative, in which case the Fixed (Part A) price should be reduced to the cost-reflective Fixed (Part A) price.
   ii. if the prevailing Fixed (Part A) price is less than the initial cost-reflective Fixed (Part A) price, the prevailing Fixed (Part A) price should increase each year by the Authority's measure of inflation plus an additional component of $2.38 per mega litre (from 2020-21, increasing by the Authority's measure of inflation each year) until the cost-reflective Fixed (Part A) price is reached[9].

E. For distribution systems where Fixed (Part A) and Fixed (Part C) prices are applicable:
   i. if the prevailing Fixed (Part A) price is above the initial cost-reflective Fixed (Part A) price, the prevailing Fixed (Part A) price should be reduced to the cost-reflective Fixed (Part A) price.
   ii. if the prevailing Fixed (Part A) price is less than the initial cost-reflective Fixed (Part A) price, the prevailing Fixed (Part A) price should increase each year by the Authority's measure of inflation plus an additional component of $2.38 per mega litre (from 2020-21, increasing by the Authority's measure of inflation each year) until the cost-reflective Fixed (Part A) price is reached[10].
   iii. if the prevailing total Fixed (Part A + Part C) price is above the initial total cost-reflective Fixed (Part A + Part C) price, the prevailing total Fixed (Part A + Part C) price should be maintained in nominal terms over the price path period until the total cost-reflective Fixed (Part A + Part C) price is reached.

[7] The prevailing price for a particular tariff group is the price that relates to the 2019-20 period.
[8] The initial cost-reflective price for a particular tariff group is the price that relates to the 2020-21 period.
[9] The additional component may be less than specified in paragraph Dii in order for the price not to exceed the cost-reflective Fixed (Part A) price.
[10] The additional component may be less than specified in paragraph Eii in order for the price not to exceed the cost-reflective Fixed (Part A) price.

iv. if the prevailing total Fixed (Part A + Part C) price is less than the initial total cost-reflective Fixed (Part A + Part C) price, the prevailing total Fixed (Part A + Part C) price should increase each year by the Authority's measure of inflation plus an additional component of $2.38 per mega litre (from 2020-21, increasing by the Authority's measure of inflation each year) until the total cost-reflective Fixed (Part A + Part C) price is reached[11].

F. Volumetric prices (Part B and Part D) should have regard to moving to cost-reflective Volumetric prices (Part B and Part D) immediately.

G. For the Burdekin-Haughton WSS, the costs of SunWater supplying 185,000 ML to Lower Burdekin Water are not to be recovered from the prices applying to the remaining water entitlements.

H. For the Central Brisbane River WSS, where cost allocations are reapportioned as anticipated in the Final Report, Seqwater Irrigation Price Review 2013-17, Volume 2, Central Brisbane River Water Supply Scheme, or as an outcome of wider cost allocation investigations with customers, the Fixed (Part A) price for the commencement of the price path period may be less than the prevailing Fixed (Part A) price.

**Schedule 3 – Categories of prices to be reviewed**

Part A and Part B prices for the Dawson Valley WSS
Part A and Part B prices for the Three Moon Creek WSS
Part A and Part B prices for the St George WSS

[11] The additional component may be less than specified in paragraph Eiv in order for the price not to exceed the cost-reflective Fixed (Part A + Part C) price.

# APPENDIX B: LIST OF SUBMISSIONS

The submissions that we received during our review of irrigation water prices in rural Queensland (1 July 2020 to 30 June 2024) are listed below. The submissions of the water businesses (Sunwater and Seqwater) are in Table 5 and all other submissions in Table 6. The submissions are numbered for reference purposes only—the numbers are used in the footnotes in the report. The submissions are available on our website.

**Table 5 Submissions—Seqwater and Sunwater**

| *Stakeholder* | *Sub. number* | *Document* |
|---|---|---|
| **Seqwater** | 1 | Seqwater submission |
| | 2 | Cedar Pocket Water Supply Scheme |
| | 3 | Central Brisbane Water Supply Scheme |
| | 4 | Central Lockyer Valley Water Supply Scheme (including Morton Vale Pipeline) |
| | 5 | Lower Lockyer Valley Water Supply Scheme |
| | 6 | Logan River Water Supply Scheme |
| | 7 | Mary Valley Water Supply Scheme (including Pie Creek) |
| | 8 | Warrill Valley Water Supply Scheme |
| | 9 | Report prepared for Seqwater by Badu Advisory—Headworks Utilisation Factors for the Logan, Mary Valley and Warril Valley Water Supply Schemes, 2018 |
| | 10 | Modelling report prepared for Seqwater by SLR—Central Brisbane Benefits Study, 2018 |
| **Sunwater** | 11 | Sunwater submission |
| | 12 | Appendix A: Customer engagement |
| | 13 | Appendix B: Governance arrangements and key legislative and regulatory obligations |
| | 14 | Appendix C: 2012 QCA recommendations and other issues |
| | 15 | Appendix D: Cover page—2019 Network Service Plans and addendums: |
| | 16 | • Barker Barambah Bulk Water Service Contract |
| | 17 | • Bowen Broken Rivers Bulk Water Service Contract |
| | 18 | • Boyne River & Tarong Bulk Water Service Contract |
| | 19 | • Bundaberg Bulk Water Service Contract |
| | 20 | • Bundaberg Distribution Service Contract |
| | 21 | • Burdekin-Haughton Bulk Water Service Contract |
| | 22 | • Burdekin-Haughton Distribution Service Contract |
| | 23 | • Callide Valley Bulk Water Service Contract |
| | 24 | • Chinchilla Weir Bulk Water Service Contract |
| | 25 | • Cunnamulla Bulk Water Service Contract |

| *Stakeholder* | *Sub. number* | *Document* |
|---|---|---|
| | 26 | • Dawson Valley Bulk Water Service Contract |
| | 27 | • Eton Bulk Water Service Contract |
| | 28 | • Eton Distribution Service Contract |
| | 29 | • Lower Fitzroy Bulk Water Service Contract |
| | 30 | • Lower Mary River Bulk Water Service Contract |
| | 31 | • Lower Mary River Distribution Service Contract |
| | 32 | • Macintyre Brook Bulk Water Service Contract |
| | 33 | • Mareeba-Dimbulah Bulk Water Service Contract |
| | 34 | • Mareeba-Dimbulah Distribution Service Contract |
| | 35 | • Nogoa Mackenzie Bulk Water Service Contract |
| | 36 | • Nogoa Mackenzie (Emerald) Distribution Service Contract |
| | 37 | • Pioneer River Bulk Water Service Contract |
| | 38 | • Proserpine River Bulk Water Service Contract |
| | 39 | • St George Bulk Water Service Contract |
| | 40 | • Three Moon Creek Bulk Water Service Contract |
| | 41 | • Upper Burnett Bulk Water Service Contract |
| | 42 | • Upper Condamine Bulk Water Service Contract |
| | 43 | • Appendix E: Marsh report on insurance market |
| | 44 | • Appendix F: Cover page Sunwater regulatory model |
| | 45 | • Appendix F: Sunwater regulatory model |
| | 46 | • Appendix G: Strategic Asset Management Plan |
| | 47 | • Appendix H: Cover page forecast non-routine projects |
| | 48 | • Appendix H: Forecast non-routine projects |
| | 49 | • Appendix I: Pricing arrangements for irrigation customers |
| | 50 | • Appendix J: Headworks utilisation factors technical paper |
| | 51 | • Appendix K: OD Hydrology: Giru Benefited Area |
| | 52 | • Geoffrey Kavanagh Giru Benefited Area Haughton Zone A review |
| **Sunwater** | 152 | Appendix F: Cover page—Sunwater regulatory model (updated) |
| | 153 | Appendix F: Sunwater regulatory model (updated) |
| | 154 | Supplementary submission: Access charge |

*Note: Submissions were received in November 2018, except submissions 152 and 153 (June 2019) and 154 (July 2019).*

**Table 6 Submissions to the irrigation price review—other stakeholders**

| *Stakeholder* | *Sub. number* | *Nov 2018* | *March 2019* |
|---|---|---|---|
| Barden Produce Queensland | 82 | | X |
| Barker Barambah Irrigator Advisory Committee | 83 | | X |
| BRIA Irrigators (initial submission) | 53 | X | |
| BRIA Irrigators | | | |
| – cover letter | 84 | | X |
| – submission | 85 | | X |
| Bundaberg Fruit and Vegetable Growers | 86 | | X |
| Bundaberg Regional Council | 87 | | X |
| Bundaberg Regional Irrigators Group (BRIG) (initial submission) | 54 | X | |
| Bundaberg Regional Irrigators Group (BRIG) | 88 | | X |
| Burdekin River Water Allocation Holders | 89 | | X |
| Burnett Inland Economic Development Organisation | 90 | | X |
| CANEGROWERS | 91 | | X |
| CANEGROWERS Burdekin (initial submission) | 55 | X | |
| CANEGROWERS Burdekin | 92 | | X |
| CANEGROWERS Isis | | | |
| – submission | 93 | | X |
| – attachment 1a (consultant report by Daley Water Service) | 94 | | X |
| – attachment 1b (Excel spreadsheet: water price analysis) | 95 | | X |
| CANEGROWERS Mackay | 96 | | X |
| CANEGROWERS Proserpine | 97 | | X |
| Central Downs Irrigators | 98 | | X |
| Central Highlands Cotton Growers and Irrigators Association (initial submission) | 56 | X | |
| Central Highlands Cotton Growers and Irrigators Association | | | |
| – general submission | 99 | | X |
| – submission on dam safety | 100 | | X |
| Central Highlands Regional Council (initial submission) | 57 | X | |
| Central Highlands Regional Council | 101 | | X |
| Cotton Australia (initial submission) | 58 | X | |
| Cotton Australia | | | |
| – submission (general) | 102 | | X |
| – submission on the QCA consultation paper | 103 | | X |
| Fairbairn Irrigation Network | 59 | X | |
| Fairbairn Irrigation Network | 104 | | X |

| *Stakeholder* | *Sub. number* | *Nov 2018* | *March 2019* |
|---|---|---|---|
| Fraser Coast Regional Council | 105 | | X |
| Giru Benefitted Area Sub Committee | 60 | X | |
| GKM Cooney | 106 | | X |
| Golden Finch Lawns | 61 | X | |
| Grange, S | 62 | X | |
| Hetherington Farming | 107 | | X |
| Hutchinson Ag | 108 | | X |
| Jackson, I | 63 | X | |
| Invicta Cane Growers Organisation (initial submission) | 64 | X | |
| Invicta Cane Growers Organisation | 109 | | X |
| Isis Central Sugar Mill | 110 | | X |
| Kalamia Cane Growers | 111 | | X |
| Kinchant Dam Water Users Association (initial submission) | 65 | X | |
| Kinchant Dam Water Users Association<br>– submission (general)<br>– attachment: Suncorp note | <br>112<br>113 | | <br>X<br>X |
| Kookaburra Farms | 114 | | X |
| LGAQ (Local Government Association of Queensland) | 115 | | X |
| Lockyer Valley Irrigators (initial submission) | 66 | X | |
| Lockyer Valley Irrigators | 116 | | X |
| Lockyer Valley Regional Council (initial submission) | 67 | X | |
| Lockyer Valley Regional Council | 117 | | X |
| Lower Burdekin (initial submission)<br>– cover letter<br>– submission | <br>68<br>69 | <br>X<br>X | |
| Lower Burdekin | 118 | | X |
| Mallawa Irrigation | 119 | | X |
| Mayne, A and C | 120 | | X |
| Mayor of Lockyer Valley Regional Council | 121 | | X |
| MBRI (Mid Brisbane Irrigators Inc.) | 122 | | X |
| MDIA Council (initial submission) | 70 | X | |
| MDIA Council | 123 | | X |
| Member for Lockyer (Central Brisbane River scheme) | 124 | | X |
| Member for Lockyer(Lockyer Valley schemes) | 125 | | X |
| Nicholson, S | 126 | | X |

| *Stakeholder* | *Sub. number* | *Nov 2018* | *March 2019* |
|---|---|---|---|
| Nogoa-Mackenzie Irrigator Advisory Committee (initial submission) | 70 | X | |
| Nogoa-Mackenzie Irrigator Advisory Committee | 127 | | X |
| North Burnett Regional Council | 128 | | X |
| Philips, A | 72 | X | |
| Preema Partnership | 129 | | X |
| PV Water (initial submission) | 73 | X | |
| PV Water | 130 | | X |
| QFF (Queensland Farmers' Federation) (initial submission) | 74 | X | |
| QFF (Queensland Farmers' Federation)<br>– submission on Seqwater schemes<br>– submission on Sunwater schemes<br>– submission on dam safety | <br>131<br>132<br>133 | | <br>X<br>X<br>X |
| Ronnfeldt, R | 75 | X | |
| S&J Reeves Enterprises | 134 | | X |
| Scocan Holdings | 135 | | X |
| Seqwater and MBRI (Mid-Brisbane River Irrigators) | 136 | | X |
| Silverleaf Farming | 137 | | X |
| Somerset Regional Council | 76 | X | |
| Superior Production Co Pty Ltd | 138 | | X |
| Suttle, D | 77 | X | |
| Theodore Water (initial submission) | 78 | X | |
| Theodore Water<br>– cover letter<br>– general submission<br>– submission on dam safety | <br>139<br>140<br>141 | | <br>X<br>X<br>X |
| Three Moon Creek Irrigator Advisory Committee (initial submission) | 79 | X | |
| Three Moon Creek Irrigator Advisory Committee | 142 | | X |
| Tinaroo Water Users Association | 80 | X | |
| Toowoomba Regional Council | 143 | | X |
| Voss, A | 144 | | X |
| Water, Theodore (initial submission) | 81 | X | |
| Weier Farming | 145 | | X |
| Werner, J | 146 | | X |
| Wessel, A<br>– general submission | <br>147 | | <br>X |

| *Stakeholder* | *Sub. number* | *Nov 2018* | *March 2019* |
|---|---|---|---|
| – submission on dam safety | 148 | | X |
| Wide Bay Burnett Regional Organisation of Councils Inc<br>– main submission<br>– supplementary submission | <br>149<br>150 | | <br>X<br>X |
| WWF Australia | 151 | | X |

# APPENDIX C: WEIGHTED AVERAGE COST OF CAPITAL

The weighted average cost of capital (WACC) is the rate of return that is most commonly used in regulatory practice in Australia. The WACC is the weighted average of the cost of equity and cost of debt, with the respective weights representing the shares of equity and debt in the capital structure of the firm.

The WACC is an estimate of the rate of return on investment that is commensurate with the regulatory and commercial risks involved with providing access to the service.

In the context of this investigation, the WACC is used in two different approaches proposed by the businesses for deriving allowances that are components of their total costs:

- a discount rate in deriving an annuity-based allowance for renewals expenditure
- a rate of return in deriving a RAB-based allowance for dam safety upgrade capital expenditure.

## Stakeholders' submissions

Sunwater and Seqwater have generally adopted the same approach to WACC parameters that the QCA applied in its 2018–21 review of Seqwater's bulk water prices (Seqwater 2018–21 review).

Both businesses said that while they did not agree with all aspects of the QCA's WACC approach, they have applied the same approach rather than incurring costs to employ their own consultant to determine the appropriateness of this approach.

Table 7 shows the individual parameter values underlying the WACC that each business submitted.

No submissions from irrigation stakeholders were received on the appropriate WACC.

**Table 7 WACC submitted by the businesses**

| *Parameter* | *Sunwater* | *Seqwater* |
|---|---|---|
| 20-day averaging period (end date) | 27 August 2018 | 28 September 2018 |
| Risk-free rate | 2.26% | 2.22% |
| Market risk premium | 7.0% | 7.0% |
| Asset beta | 0.41 | 0.40 |
| Equity beta | 0.77 | 0.77 |
| Cost of equity | 7.62% | 7.58% |
| Cost of debt | 4.67% | 5.20% |
| Capital structure | 60% | 60% |
| Gamma | 0.41 | 0.47 |
| Nominal post-tax WACC | 5.85% | 6.15% |

*Source: Sunwater, sub. 11; Sunwater, sub. 45; Seqwater, sub. 1; Seqwater irrigation pricing model 2018.*

## QCA assessment

While the referral asks us to recommend prices that exclude a return on the existing asset base, it does not direct us to adopt a less than commercial rate of return (discount rate) for other purposes (including the development of appropriate allowances for renewals and dam safety upgrade capital expenditure).

In developing the WACC for the irrigation review, we have applied:

- recent updates in the QCA approach outlined in the Queensland Rail 2020 draft access undertaking (DAU) draft decision
- findings from the QCA's Seqwater 2018–21 review
- regulatory precedents for water businesses in other jurisdictions and recent updates on industries that have previously been used to benchmark rural water (e.g. Australian energy businesses)
- an updated assessment as to whether underlying findings from the 2012 (Sunwater) and 2013 (Seqwater) reviews remain appropriate, including that the businesses' irrigation activities:
  - have low systematic risk (risk is more related to weather than economic activity)
  - are shielded from both demand and cost risk through the adoption of the two-part tariff structure.

## Cost of equity

The cost of equity is estimated using the Capital Asset Pricing Model (CAPM), which adds an equity risk premium to the risk-free rate, where the equity premium comprises the market risk premium scaled by the firm's equity beta.

### Risk-free rate

The risk-free rate is the rate of return required by investors for holding an asset with zero default risk. The risk-free rate is a component of both the cost of equity and the cost of debt.

Sunwater and Seqwater both proposed using the approach in the Seqwater 2018–21 review, which used a 20-business-day average of the nominal yields on Commonwealth Government bonds with a term to maturity aligned to the length of the regulatory period (i.e. 'term-matching').

Sunwater and Seqwater applied a 20-day averaging period, with an indicative end date of 27 August 2018 and 28 September 2018, respectively, with both businesses submitting an indicative risk-free rate based on the yield of a Commonwealth Government bond with a term to maturity of five years.

#### Conclusion

We have applied the approach used in the recent Queensland Rail 2020 DAU draft decision and recommend using a 10-year risk free rate with a 20-day average ending 28 June 2019. This estimate will be updated for the final report.

### Market risk premium

Sunwater and Seqwater both proposed using the market risk premium from the Seqwater 2018–21 review of 7.0 per cent.

#### Conclusion

We note that the most recent QCA estimate of the market risk premium is 6.5 per cent in the Queensland Rail 2020 DAU draft decision. We have accepted this updated estimate of the market risk premium for this draft report.

### Beta

The asset beta (or unlevered beta) of an entity is a relative measure of the underlying business risk of the entity relative to the market as a whole. Sunwater and Seqwater have both proposed using the asset beta from the Seqwater 2018–21 review.

Incenta's analysis of the asset beta in the Seqwater 2018–21 review selected 12 listed regulated water businesses as a sample with similar risk characteristics to Seqwater.[140] Incenta considered that in the absence of Australian-listed, regulated water businesses, the next closest comparator businesses were listed regulated water businesses in countries similar to Australia. Incenta also said that there was a small number of listed regulated Australian energy businesses, and a much larger number of international listed regulated energy businesses, which would also exhibit similar systematic risk characteristics to Seqwater.

Incenta estimated the asset beta for these comparator businesses over 10 years, using both weekly and monthly return observations. The weekly and monthly observations returned average asset beta estimates of 0.49 and 0.33 respectively. Based on these two estimates, Incenta advised that the best empirical estimate of the asset beta was the midpoint of 0.41.

The equity beta (or levered beta) reflects not only this business risk but also the financial risk borne by equity holders from the use of debt to partially fund the business. It is a function of the asset beta and debt beta. Sunwater and Seqwater have both proposed using the equity beta from the Seqwater 2018–21 review. Sunwater and Seqwater proposed an equity beta of 0.77.

### Other jurisdictions

In recent regulatory reviews, most economic regulators of water businesses in Australia have assumed an equity beta of 0.7.

**Table 8 Equity beta—other jurisdictions**

| *Year* | *Regulator and review* | *Equity beta* |
|---|---|---|
| 2017 | IPART–WaterNSW (MDB valleys) | 0.70 |
| 2017 | IPART–WaterNSW (Coastal valleys) | 0.70 |
| 2017 | ERA–Water Corporation, Aqwest and Busselton Water Board | 0.70 |
| 2016 | ESCOSA–SA water regulatory determination | 0.70 |
| 2016 | ESC–Melbourne Water | 0.65 |
| 2016 | ESC–Goulburn-Murray Water | 0.70 |

*Source: IPART 2017, ERA 2017, ESCOSA 2016, ESC 2016.*

The comparator sample of companies used to estimate equity beta has varied in reviews of regulated water entities.

In its 2017 review of prices for WaterNSW's rural bulk water price services, IPART said that an equity beta of 0.7 with a gearing of 60 per cent was representative of the extent of systematic risk of the water industry more broadly (i.e. rural and urban water businesses).[141] In its 2018 WACC review, IPART said it would review the equity beta at the start of each price review process by analysing comparator businesses with a similar risk profile, and update this parameter in WACC calculations if necessary.[142] In April 2019, IPART sought submissions on its proposed new method for estimating the equity beta, estimating a water industry beta of 0.74 using a sample of 35 water businesses.[143]

[140] Incenta, *Estimating Seqwater's firm-specific WACC parameters for the 2018–21 bulk water price investigation*, November 2017.
[141] IPART, *WaterNSW—Review of prices for rural bulk water services from 1 July 2017 to 30 June 2021*, final report, June 2017, p. 71.
[142] IPART, *Review of our WACC method*, final report, February 2018, p. 61.
[143] IPART, *Estimating Equity Beta*, April 2019, p. 7.

In its 2011 pricing principles, the ACCC considered 0.7 to be an appropriate value for the equity beta at a leverage of 60 per cent for price determinations under its water charge (infrastructure) rules.[144] The ACCC considered that rural water businesses were likely to face similar levels of systematic risk to Australian energy businesses and that the most recent empirical data indicated an equity beta of between 0.4 and 0.7. The ACCC chose a value in the higher end of this range, taking a conservative view of the likely equity beta estimate of rural water businesses regulated under its water charges (infrastructure) rules.

In December 2018, the AER updated its equity beta estimate to a point estimate of 0.6 from a range of updated empirical estimates of 0.42–0.88 for Australian regulated energy businesses with an estimated gearing of 60 per cent.[145]

### Previous investigations

The 2012 and 2013 reviews concluded that the irrigation businesses:

- have low systematic risk (risk is more related to weather than economic activity)
- were shielded from both demand and cost risk through the adoption of the two-part tariff structure that closely aligned with the underlying cost structure of the businesses.

In the 2012 and 2013 reviews, an equity beta of 0.55 was calculated using the QCA's leverage formula, as well as an asset beta of 0.3, an assumed debt beta of 0.11, and a debt to value ratio of 60 per cent.

The asset beta of 0.3 was based on a 2011 advice by Lally based on comparator samples of listed regulated Australia energy businesses (average asset beta of 0.3) and listed regulated UK water businesses (average asset beta of 0.22).[146] We noted that regulated Australian energy businesses had similar regulatory settings as the irrigation businesses, with associated low exposure to both demand and cost risk.

### QCA assessment

We consider that the irrigation businesses of Sunwater and Seqwater would exhibit similar risk characteristics as regulated energy and water businesses.

Regulated energy and water businesses generally have strong regulatory regimes that afford a high level of revenue certainty. The irrigation businesses also have lower exposure to demand and cost shocks under our proposed regulatory framework, which includes regulatory cost pass-throughs for unforeseen circumstances and the adoption of a two-part tariff that closely aligns with the underlying cost structures of the businesses.

In addition, the characteristics of regulated energy and water customers will mitigate much of these businesses' exposure to volume risk through economic cycles. We consider that regulated energy and water businesses' revenues are resilient to economic cycles, as a significant component of demand comes from residential consumers with no other service options and with a low income elasticity of demand for the service. The demand for water services by irrigation customers is largely dependent on the availability of water rather than on changes in general domestic economic activity.

We note that all the businesses in the Seqwater 2018–21 review sample of listed regulated water businesses are subject to cost-based regulation that helps insulate them from volume risk. We have used this comparative sample of listed regulated water businesses for the irrigation review, updated with the latest asset beta estimates.

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[144] ACCC, *Pricing principles for price approvals and determinations under the Water Charge (Infrastructure) Rules 2010*, July 2011, p. 38.
[145] AER, *Rate of return instrument*, Explanatory Statement, December 2018, pp. 95–101.
[146] Lally, M, *The Estimated WACC for the SEQ Interim Price Monitoring*, January 2011, pp. 21–26.

Incenta was recently engaged by the QCA to provide advice on the appropriate asset beta in the Queensland Rail 2020 DAU draft decision. Incenta's assessment derived an asset beta for regulated energy and water businesses of 0.38.[147] This analysis included the complete sample of water companies that was used in the Seqwater 2018–21 review. Using Incenta's updated analysis from the Queensland Rail 2020 DAU draft decision and applying this to the sample of listed regulated international water businesses from the Seqwater 2018–21 review gives an asset beta of 0.40.

The asset beta of 0.4 diverges from the asset beta of 0.3 used in the 2012 and 2013 reviews mainly due to differences in:

- the sample of comparator companies—listed regulated international water businesses as opposed to listed regulated Australian energy businesses
- the method for estimating beta.

Of the sample of listed regulated Australian energy companies used in the 2012 and 2013 reviews, only two companies remain listed. A sample of listed regulated international water companies is readily available, and was used in the Seqwater 2018–21 review and GAWB 2015 review. In the absence of a reasonable sample size of listed regulated Australian water companies, we consider that a sample of listed water businesses from countries similar to Australia is appropriate and consistent with recent QCA water reviews.

The proposed method for estimating beta is to derive an average of the weekly and monthly asset betas over a 10-year period, compared with the estimation method in the 2012 and 2013 reviews that used a monthly beta over a six-year period. The average of the monthly and weekly asset betas over a 10-year period is consistent with recent QCA reviews, including the Queensland Rail 2020 DAU. We consider that a longer sample window provides for a more robust asset beta estimate.

We note that the 2012 review indicated that rural irrigation businesses may have lower systematic risk profiles than water businesses that supply mostly urban customers (e.g. Seqwater) and water businesses that supply mostly industrial customers (e.g. GAWB). We consider that the systematic risk of both rural and urban regulated water businesses would be relatively low, given the regulatory mechanisms in place to reduce exposure to revenue and cost risks. We note that the already limited sample set does not provide for the ability to create a robust empirical approach to assess potential differences in systematic risk between rural and urban water businesses.

This approach is consistent with that of IPART, who has indicated that there is no difference in the systematic risk between urban and rural water businesses.[148]

#### Conclusion

We have accepted the updated asset beta of 0.40 for listed regulated international water businesses for both Sunwater and Seqwater for the irrigation review. In conjunction with a gearing level of 60 per cent (see below), and a debt beta of 0.12, this translates to an equity beta of 0.755.

### Cost of debt

The cost of debt is the sum of the risk-free rate, a debt premium, and allowances for transaction costs associated with issuing debt and managing refinancing risks.

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[147] Incenta, *Estimating Queensland Rail's WACC for the 2020 DAU—asset beta, benchmark gearing, and credit rating,* prepared for the QCA, April 2019.

[148] IPART, WaterNSW—*Review of prices for rural bulk water services from 1 July 2017 to 30 June 2021*, final report, June 2017, p. 71.

## Credit rating

In the 2012 and 2013 reviews, we applied a BBB+ benchmark credit rating.

Most economic regulators of water utilities in Australia assume a benchmark credit rating of BBB to BBB+.

**Table 9 Credit rating—other jurisdictions**

| *Year* | *Regulator and review* | *Credit rating* |
|---|---|---|
| 2018 | ESC—Victorian water businesses (excl. Melbourne Water and Goulburn-Murray Water) | BBB |
| 2018 | ICRC—Icon Water | BBB |
| 2017 | IPART—Sydney Desalination Plant | BBB |
| 2017 | IPART—WaterNSW (MDB valleys)[a,b] | BBB |
| 2017 | IPART—WaterNSW (coastal valleys) | BBB |
| 2017 | ERA–Water Corporation, Aqwest and Busselton Water Board | BBB |
| 2016 | ESC—Goulburn-Murray Water[a] | BBB+ |
| 2016 | ESC—Melbourne Water | BBB |
| 2016 | ESCOSA—SA Water | BBB |
| 2015 | QCA—Gladstone Area Water Board (GAWB) | BBB |
| 2014 | ACCC—State Water (now WaterNSW)[a,b] | BBB |

***a*** *These parameters have been set out in the ACCC's 2011 Pricing principles for price approvals and determinations under the Water Charge (Infrastructure) Rules 2010.*

***b*** *The ACCC accepted WaterNSW's proposal to derive a debt risk premium based on corporate bonds with a BBB credit rating. ACCC said that while the WCIR defines a BBB+ benchmark credit rating, due to data inadequacies the DRP can be calculated using BBB rated bonds in practice.*

For this review, the businesses submitted a WACC with the following cost of debt attributes:

- Sunwater submitted a debt risk premium consistent with BBB-rated corporate bonds.
- Seqwater submitted the QTC-advised cost of debt from the 2018–21 review.

In the Seqwater 2018–21 review, in accordance with the referral , we applied Seqwater's cost of debt as advised by Queensland Treasury Corporation (QTC). Consequently, we did not consider the appropriate benchmark credit rating of the regulated business.

In the 2012 review, our consultant NERA noted that the benchmark credit rating assigned to Australian regulated energy and water businesses had ranged between BBB and BBB+. NERA's assessment of Sunwater's actual financial profile found that a BBB+ credit rating was appropriate. However, this assessment used Sunwater's actual financial data for Sunwater as a whole, rather than the QCA's recent approach of using benchmark financial data for the benchmark entity, which in this case would comprise Sunwater's irrigation business.

In recent regulatory decisions, the use of a BBB+ benchmark credit rating for regulated water businesses has generally been limited to approval processes under the Water Charge (Infrastructure) Rules 2010 (WCIR), which are required to use parameters set by ACCC in 2011.[149]

[149] The BBB+ benchmark credit rating was based on existing regulatory precedent in 2011. ACCC noted that the approach previously used by IPART and the ESC for water businesses, and ACCC/AER for other regulated

#### Conclusion

We have accepted the use of a BBB benchmark credit rating for Sunwater and Seqwater. We note that this is consistent with the benchmark credit rating applied by IPART in its most recent WaterNSW price determination, and with the benchmark credit rating generally applied in regulatory reviews for other regulated water businesses.

### Debt margin (including refinancing)

Sunwater proposed a cost of debt that uses the latest IPART estimate (August 2018) of the BBB-rated debt margin with the QCA's allowances for refinancing costs and interest rate and credit default swaps.

Seqwater proposed using a cost of debt as provided by Queensland Treasury Corporation (QTC). This approach was required under the referral notice in the Seqwater 2018–21 review, but not under this this irrigation referral notice.

#### Conclusion

We have applied our standard approach to estimating the cost of debt using a benchmark credit rating applicable to the regulated business. Consistent with the recent Queensland Rail 2020 DAU draft decision, we have derived the cost of debt as a simple average of the relevant RBA and Bloomberg series, with a 20-day average ending 28 June 2019.

We have used a debt refinancing transaction cost allowance consistent with the updated estimate for the Aurizon Network 2017 DAU final decision and used in the Queensland Rail 2020 DAU draft decision.

## Capital structure (or gearing)

Capital structure refers to the relative market-value proportions of debt and equity that together finance the regulated entity's assets. The regulated entity's proportion of debt in the total market value of its assets (equity + debt) is termed its 'gearing' or 'leverage'. The benchmark credit rating is based on the benchmark capital structure. Firms that face less risk in their operating environment are generally able to sustain higher levels of debt for a given credit rating, all else equal.

In the 2012 and 2013 reviews, we applied a capital structure of 60 per cent debt.

Most economic regulators of water utilities in Australia assume a benchmark capital structure of 60 per cent.

**Table 10 Capital structure—other jurisdictions**

| *Year* | *Regulator and review* | *Capital structure (%)* |
|---|---|---|
| 2018 | ESC—Victorian water businesses (excl. Melbourne Water and Goulburn-Murray Water) | 60 |
| 2018 | ICRC—Icon Water | 60 |
| 2017 | IPART—Sydney Desalination Plant | 60 |
| 2017 | IPART—WaterNSW (MDB valleys)[a] | 60 |
| 2017 | IPART—WaterNSW (coastal valleys) | 60 |
| 2017 | ERA–Water Corporation, Aqwest and Busselton Water Board | 55 |
| 2016 | ESC—Goulburn-Murray Water[a] | 60 |

businesses, was typically a BBB+ benchmark credit rating. See ACCC, *Pricing principles for price approvals and determinations under the Water Charge (Infrastructure) Rules 2010*, July 2011.

| *Year* | *Regulator and review* | *Capital structure (%)* |
|---|---|---|
| 2016 | ESC—Melbourne Water | 60 |
| 2016 | ESCOSA—SA Water | 60 |
| 2015 | QCA—Gladstone Area Water Board (GAWB) | 50 |
| 2014 | ACCC—State Water (now WaterNSW)[a] | 60 |

***a*** *These parameters have been set out in the ACCC's 2011 Pricing principles for price approvals and determinations under the Water Charge (Infrastructure) Rules 2010.*

Sunwater and Seqwater both proposed a capital structure of 60 per cent based on the QCA final recommendations in the Seqwater 2018–21 review. This figure is consistent with Australian regulatory precedent for water businesses.

The benchmark capital structure of 60 per cent proposed by both businesses is consistent with Australian regulatory practice. We also do not consider that the circumstances of GAWB (i.e. benchmark capital structure of 50 per cent) are as relevant to Sunwater and Seqwater, as a large proportion of GAWB's demand is dependent on a few businesses, and it is dependent on one relatively narrow catchment area.

In our Seqwater 2018–21 review, our consultant Incenta said that the regulatory precedent for a benchmark capital structure of 60 per cent originated from the regulated Australian energy sector, as there are no listed regulated water businesses in Australia. Incenta showed that the average capital structure of Australian listed regulated energy businesses over 10 years remains close to 60 per cent.

#### Conclusion

We have accepted the 60 per cent gearing level for both Sunwater and Seqwater for the irrigation review.

### Gamma

The Australian tax system allows companies to provide their shareholders with credits (i.e. dividend imputation credits) to reflect company taxes paid on profits that are distributed as dividends. Shareholders then use dividend imputation credits to reduce their own tax liabilities. Therefore, imputation credits effectively reduce a company's cost of capital.

The value of dividend imputation credits is captured by a parameter known as 'gamma', which is the product of:

- the distribution rate—the ratio of distributed imputation credits to company tax paid, and
- the utilisation rate—the value-weighted average over the utilisation rates of imputation credits of all investors in the market.

Sunwater and Seqwater both proposed using the gamma used in the Seqwater 2018–21 review. Sunwater proposed a gamma of 0.41 and Seqwater proposed a gamma of 0.47.

#### Conclusion

We have used a gamma of 0.484, which is our most recent estimate of gamma, currently from the Queensland Rail 2020 DAU draft decision. This is based off a distribution rate of 0.88 and a utilisation rate of 0.55.

### Conclusion on benchmark WACC

The table below summarises our proposed benchmark nominal post-tax WACC for the purposes of recommending prices as part of this investigation.

**Table 11 The QCA's draft WACC**

| *Parameter* | *Sunwater* | *Seqwater* | *QCA draft* |
|---|---|---|---|
| 20-day averaging period (end date) | 27 August 2018 | 28 September 2018 | 28 June 2019 |
| Risk-free rate | 2.26% | 2.22% | 1.40% |
| Market risk premium | 7.0% | 7.0% | 6.5% |
| Asset beta | 0.41 | 0.40 | 0.40 |
| Equity beta | 0.765 | 0.766 | 0.755 |
| Cost of equity | 7.62% | 7.6% | 6.30% |
| Credit rating | BBB | n.a. | BBB |
| Debt margin (incl. refinancing) | 2.41% | n.a. | 2.20% |
| Cost of debt | 4.67% | 5.20% | 3.70% |
| Capital structure | 60% | 60% | 60% |
| Gamma | 0.41 | 0.47 | 0.484 |
| Nominal post-tax WACC | 5.85% | 6.15% | 4.74% |

*Source: Sunwater, sub. 11; Sunwater, sub. 45; Seqwater, sub. 1; Seqwater irrigation pricing model 2018; QCA analysis.*

# APPENDIX D: RESPONSES TO ADDITIONAL ISSUES RAISED IN STAKEHOLDER SUBMISSIONS

This section outlines responses we have provided to additional issues raised in submissions received, and which have not been otherwise addressed in this draft report.

| *Stakeholder comment* | *Stakeholder submission* | *QCA response* |
|---|---|---|
| Consideration should be given to maintaining affordable water reserves in Paradise Dam that are available to meet future urban and agricultural water requirements for the Bundaberg region. | Bundaberg Regional Council, sub. 86. | Consistent with terms of the referral, our analysis and draft recommendations do not apply to water services provided by Burnett Water Pty Ltd in relation to Paradise Dam that are outside the scope of this review. The pricing of these water services that fall outside the scope of this review are matters Burnett Water Pty Ltd and their customers. |
| Concerned that some growers are paying twice for the water they use. Growers within the Lower Burdekin Water Board area who hold a Sunwater allocation and pump from the river pay Sunwater Part A and Part B charges in addition to a Lower Burdekin Water area charge | Burdekin River Water Allocation Holders, sub. 88. | The scope of our investigation covers the irrigation prices charged by Sunwater to recover its costs of operating, maintaining and renewing each water supply scheme. The draft prices we have recommended for the Burdekin-Haughton WSS covers only these costs.<br>Other prices charged are outside the scope of our investigation. |
| Concerned about DNRME changes to water allocations (via the Fitzroy Basin Resource Operating Plan). These changes have apparently resulted in a reduction in the allocations in the Kroombit Benefitted Area and in customers having to pay more to offset the reduction in volume. | Grange, S, sub. 61. | This matter is outside the scope of this report, as it concerns the appropriateness of DNRME's water allocation decisions. |
| Concerned that riparian users are drawing water from the creek (particularly during dry periods) and some of this water is potentially regulated releases destined for allocation holders. Considered that this unregulated use increased losses and costs for the scheme and its irrigators. | Kookaburra Farms, sub. 114. | This matter is outside the scope of this report, as it relates to water planning which is the responsibility of DNRME. |
| Nodal pricing should be considered as the operations of Bill Gunn Dam (gravity-fed) and Lake Clarendon (pumped water) are different. | Lockyer Water Users Forum, sub. 65.<br>Lockyer Water Users Forum, sub. 115. | Under the terms of the referral, we have been directed to adopt the current tariff groups for all WSS, other than those tariff groups in schedule 3 of the referral. Consistent with these terms, we are required to adopt the existing tariff group for Central Lockyer Valley WSS, which provides for the same price for all customers. |
| Concerned about DNRME changes to water allocations (via the Fitzroy Basin Resource Operating Plan). These changes have apparently resulted in a reduction in allocations and water users are concerned that they have to pay more to offset the lower volumes. | Phillips, A, sub. 71. | This matter is outside the scope of this report, as it concerns the appropriateness of DNRME's water allocation decisions. |

| *Stakeholder comment* | *Stakeholder submission* | *QCA response* |
|---|---|---|
| Concerns with Sunwater's after-hours service. | Suttle, D, sub. 76. | This matter is outside the scope of this report, which concerns irrigation prices for the 2020–24 price path period. |

# APPENDIX E: OVERVIEW OF KEY OBLIGATIONS OF WATER BUSINESSES

The legislative framework within which Sunwater and Seqwater operate include the Water Act 2000, customer contracts, and various water planning framework documents such as water plans, water management protocols, resource operations licences and operations manuals.

## Water planning obligations

The Queensland Water Act 2000 is the legislative instrument that mandates how water is to be managed. The prescribed planning process includes water plans, water management protocols and resource operations licences.

Under the Water Act 2000, the Department of Natural Resources, Mining and Energy (DNRME) is responsible for long term water planning in Queensland. DNRME manages water resources by:

- planning the allocation for water—establishing environmental flow objectives for a catchment, and the consumptive pool available for extractions
- administering entitlements for access to water—determining the volume and reliability of water that can be released under water allocations, referred to in this report as water access entitlements (WAEs).
- administering licences to operate water infrastructure—by issuing resource operations licences and distribution operations licences.

The water businesses must operate their water supply schemes in accordance with the Water Act 2000 and the subordinate regulatory instruments given force to by this Act, including water plans, water management protocols and resource operations licenses. These instruments outline key obligations including conditions on the operation of water infrastructure, releases to satisfy environmental flow objectives, management of water losses and sales or transfers of WAE to customers.

Amendments to the Water Act 2000 in December 2016 introduced a revised water planning framework that sought to achieve a more streamlined and responsive approach to water planning in Queensland. Under this new framework, there are new or revised water planning framework documents such as water plans (in place of water resource plans) and water management protocols (in place of resource operations plans). Some water plan areas have yet to transition to the current framework. For these areas, the existing water planning documents remain in effect.

### Water plans

Water plans are developed under the Water Act 2000 to sustainably manage and allocate water resources in Queensland. They set out the management framework for water resources in a particular catchment area, including outcomes, objectives and strategies for achieving a sustainable balance between water for industry, irrigation and urban use and the environment.

Water plans specify environmental flow objectives (EFOs) and water allocation security objectives (WASOs) and associated performance indicators for the catchment area:

- EFOs are the flows specified in the water plan as being necessary to protect the environment
- WASOs set the minimum standard for associated performance indicators that the holder of a water allocation can expect from their allocation.

Water plans are implemented through a range of documents, developed in consultation with water users. These include water management protocols, resource operations licences or distribution operations licences, and operations manuals.

### Water management protocols

A water management protocol implements a water plan and may state for a particular plan area:

- water trading rules for supplemented and unsupplemented water
- water sharing rules for unsupplemented water
- any volumes of unallocated water reserved for particular purposes or stated locations.

The rules in the water management protocol that relate to Sunwater and Seqwater are the water trading rules for supplemented water allocations

### Resource operations licences

Resource operations licences allow the owner of bulk water infrastructure to interfere with the flow of water in order to operate water infrastructure to which the licence applies. Sunwater and Seqwater hold resource operations licences for each of the water supply schemes they operate.

Resource operations licences include:

- roles and responsibilities of scheme operators to achieve the outcomes of the water plan
- details of the water infrastructure, such as dams and weirs, used to operate the scheme
- environmental management rules
- monitoring and reporting requirements.

### Operations manual

The operating requirements of the water businesses are described in the operations manual for each water supply scheme. The manual includes:

- water sharing rules (such as announced allocation or continuous sharing rules)
- operational rules such as minimum storage levels, environmental release rules and constraints on changes in the rates of release.

### Water access entitlements

A water access entitlement is an ongoing entitlement to exclusively access a share of water. A WAE is a tradeable property right providing access to water within a catchment.

Within each WSS, there are usually a number of different classes (or products) of WAEs. The most common classes are high priority and medium priority. In general, irrigators hold medium priority WAEs. The water sharing rules under each operations manual determine the relative access to water for each priority.

### Supply contracts

The water businesses must act in accordance with the supply contract it has with its customers. Under section 146 of the Water Act 2000, the standard contract is ‘deemed’ to apply, even if a customer has not signed it. Otherwise, a contract may be agreed by the water businesses and customers.

Service targets, among other performance indicators, specify the targeted length and frequency of planned and unplanned shutdowns. The standard contract requires the water businesses to report against these targets and to revise them in consultation with customers.

## Dam safety obligations

The water businesses are responsible for the safety of their dams under the Water Supply (Safety and Reliability) Act 2008. Obligations in relation to dam safety include:

- having an effective dam safety management program to minimise the risk of dams failing, and protect life and property, in accordance with the Queensland Dam Safety Management Guidelines[150]
- complying with the national guidelines of the Australian National Committee on Large Dams (ANCOLD)
- having an approved emergency action plan in place for each dam[151]
- meeting requirements relating to acceptable flood capacity in the Guideline on Acceptable Flood Capacity for Water Dams[152].

Sunwater was directed by its shareholding Ministers to improve the emergency action plans and implement an emergency event program following two separate reviews by the Inspector-General Emergency Management in 2015.

## Commonwealth legislative and regulatory obligations

Sunwater has responsibilities under the Water Act 2007 and associated water charge rules for the six water supply schemes that it owns and operates in parts of the Murray-Darling Basin:

- Chinchilla Weir WSS
- Cunnamulla Weir WSS
- Macintyre Brook WSS
- Maranoa River WSS
- St George WSS
- Upper Condamine WSS.

The Water Act 2007 was designed to ensure that the Murray-Darling Basin is managed in the national interest. The Act establishes an independent Murray-Darling Basin Authority with the functions and powers, including enforcement powers, needed to ensure that Basin water resources are managed in an integrated and sustainable way.

### Water charge rules

Charging arrangements in relation to water infrastructure in the schemes listed above are currently subject to three sets of water charge rules made under section 92 of the Water Act 2007. These rules are the:

- Water Charge (Infrastructure) Rules 2010—these rules require Sunwater to provide a schedule of charges to existing and new customers (including when changes occur) and publish the schedule of charges

[150] DNRM, *Queensland Dam Safety Management Guidelines*, February 2002.
[151] Water Supply (Safety and Reliability) Act 2008, s. 352E.
[152] DEWS, *Guidelines on Acceptable Flood Capacity for Water Dams*, July 2017.

- Water Charge (Termination Fees) Rules 2009—these rules set out the circumstances under which a termination fee may be imposed on an irrigation customer in the Murray-Darling Basin, as well as the methodology by which the termination fee is calculated.
- Water Charge (Planning and Management Information) Rules 2010—these obligations relate to the publication of information on planning and management charges levied by DNRME and apply to DNRME rather than Sunwater.[153]

In December 2014, the Australian Competition and Consumer Commission (ACCC) was requested to provide advice on possible amendments to the water charge rules. The ACCC delivered its final advice (including proposed rules) to the responsible Commonwealth Minister in September 2016.[154]

In January 2017, the Minister made rules to repeal Part 5 of the Water Charge (Infrastructure) Rules 2010, removing the requirement on operators to produce five-yearly network service plans, consultation papers and information statements. The amended rules commenced on 1 July 2017.

In April 2019, the Minister for Agriculture and Water Resources made the Water Charge Amendment Rules 2019 to amend the water charge rules and to combine the three sets of rules into the Water Charge Rules 2010. The start date for the amended rules is 1 July 2020.

Under existing regulatory arrangements in Queensland, the ACCC would determine future irrigation (and non-irrigation) prices for the six WSSs owned and operated by Sunwater that are part of the Murray-Darling Basin from 1 July 2020.

## Other obligations

Sunwater and Seqwater must also comply with a number of other obligations, including those relating to reporting requirements for supplemented streams, monitoring blue-green algae, water quality monitoring, operational reporting, water entitlements and resource management, and environmental obligations.

In relation to the bulk water supply services provided in SEQ, Seqwater also has water quality obligations, water security planning obligations and compliance requirements under the Bulk Water Supply Code and bulk water supply agreements with water retailers. However, these obligations do not relate to the monopoly business activities covered in this pricing investigation.

[153] Sunwater, sub. 13.
[154] ACCC, *Review of the Water Charge Rules*, final advice, September 2016.

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