

Consultation paper

Rural irrigation price review 2020–24: apportionment of dam safety upgrade costs

October 2018

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SUBMISSIONS

Closing date for submissions: 22 February 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 it developing and applying an appropriate approach for apportioning dam safety upgrade capital expenditure as part of the review of 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:

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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 the Brisbane office, or on the website at www.qca.org.au. If you experience any difficulty gaining access to documents please contact us on (07) 3222 0555.

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THE ROLE OF THE QCA – TASK, TIMING AND CONTACTS

The Queensland Competition Authority (QCA) is an independent statutory authority that 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* (Appendix B), 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
Submissions due on regulatory submissions and dam safety consultation paper	22 February 2019
Draft report to the Queensland Government	By 31 August 2019
Final report to the Queensland Government	By 31 January 2020

Registration of interest

www.qca.org.au/Submissions

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1 INTRODUCTION

The Queensland Government has directed the Queensland Competition Authority (QCA) to investigate pricing practices relating to the storage and supply of water by SunWater and Seqwater (the water businesses) in specific water supply schemes (WSSs) and distribution systems, where those activities are undertaken for an irrigation service.¹ A referral notice for the investigation (the referral) was issued to the QCA on 29 October 2018 under section 23 of the *Queensland Competition Authority Act 1997* (the QCA Act).

The objectives of the review are set out in the referral (**Appendix A**). The key objective of the review is to recommend prices to be charged by the water businesses to irrigation customers in the specified WSSs and distribution systems for the period 1 July 2020 to 30 June 2024 (the price path period). The Queensland Government will consider our recommendations when it sets those prices.

1.1 Dam safety upgrades

Dam safety upgrades are undertaken to ensure dam safety compliance requirements are achieved by keeping the potential for dam failure to tolerable levels. Dam safety upgrades can include dam spillway upgrades, the installation of spillway gates, structural modifications and modifications to dam embankments.

In our previous review², the referral directed the QCA not to consider the recovery of dam safety upgrade capital expenditure through irrigation prices.

For this review, we have been asked to develop and apply an appropriate approach for apportioning dam safety upgrade capital expenditure, and explain this approach and its application as part of our recommendations. In developing an approach, we will consider the extent, if any, to which the proportion of dam safety upgrade capital expenditure 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 will recommend two sets of irrigation prices in relation to capital expenditure on dam safety upgrades:

- one set where all dam safety upgrade capital expenditure is excluded
- one set where an appropriate allowance for capital expenditure forecast to be incurred from 1 July 2020 onwards is included.

1.2 Purpose of this consultation paper

The purpose of this consultation paper is to:

- outline our key considerations in developing an appropriate approach for apportioning dam safety upgrade capital expenditure

¹ 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'.

² We completed our previous review of irrigation prices for SunWater in 2012 (QCA 2012) and Seqwater in 2013 (QCA 2013a).

- set out the key issues on which we are seeking stakeholders' views.

We are interested to hear from stakeholders on any practical considerations that QCA should give weight to when developing its approach. We are also interested in stakeholder views on any other issues that we should consider in developing an appropriate approach for apportioning dam safety upgrade capital expenditure.

Where possible, stakeholders should provide detailed arguments and evidence to support their views.

1.3 Planned dam safety upgrade program

The following SunWater dams have been identified to 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)
- Teemurra Dam (Pioneer River WSS)
- Wuruma Dam (Upper Burnett WSS)
- Leslie Dam (Upper Condamine WSS).³

A number of smaller projects have been identified for 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 does not have any dam safety upgrade projects that are expected to be commissioned in the price path period. However, Seqwater has planned dam safety upgrades that are expected to 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).

1.4 The review process

This paper is the first stage of our review process.

We are planning to hold workshops in January and early February 2019 to provide stakeholders with an opportunity to discuss issues relating to this consultation paper and the water businesses' regulatory submissions, depending on the level of stakeholder interest. Stakeholders can register their interest for a workshop on our website.⁴

Submissions in response to this paper are due by no later than 22 February 2019.

Details on how to make a submission appear on page i. An indicative timetable for the review appears on page iii.

³ Indicative cost forecasts have been included in SunWater's 2019 network service plans.

⁴ <http://www.qca.org.au/IrrigationWorkshops>.

2 DRIVERS OF DAM SAFETY UPGRADES

Dam safety is a key regulatory requirement for dam owners and operators, including SunWater and Seqwater. Dam safety upgrades are undertaken to ensure dam safety compliance requirements are achieved by keeping the potential for dam failure to tolerable levels. These upgrades in turn reduce the risk of unacceptable damage to property or loss of life downstream from the dam.

2.1 Dam safety compliance obligations

The *Water Supply (Safety and Reliability) Act 2008* (the WSSR Act) provides 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 other things, managing a referable dam⁵ and the flood capacity of dams. These guidelines constitute the regulatory basis for dam safety standards for referable dams throughout Queensland.

In accordance with the Queensland Dam Safety Management Guidelines established under the WSSR Act, dam owners and operators are required to have an effective dam safety management program to minimise the risk of dams failing and to protect life and property.⁶

Consistent with the WSSR Act, the dam safety regulator in DNRME has issued acceptable flood capacity (AFC) guidelines that specify the minimum flood capacity that a referable dam must be able to safely pass.⁷ The general principle incorporated in the AFC and Australian National Committee on Large Dams (ANCOLD) guidelines⁸ 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.⁹ 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. The AFC guidelines also 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

⁵ Dams are referable if they have been assessed to have two or more people whose safety is at risk in the event of dam failure.

⁶ DNRM 2002.

⁷ An updated version of these guidelines was published by the Department of Energy and Water Supply (DEWS) in July 2017 (DEWS 2017). This replaced previous 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 which increased standards or requirements.

⁸ The ANCOLD guidelines relate to risk assessment (ANCOLD 2003), selection of AFC for dams (ANCOLD 2000a) and assessment of the consequences of dam failure (ANCOLD 2000b).

⁹ DEWS 2017.

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).

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 which are grossly disproportionate to the amount of risk reduction achieved. The AFC guidelines interpret the ALARP principle 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.¹⁰

2.2 Recent developments

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 have resulted in water businesses reassessing their dam safety requirements.

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 has impacted the assessment of AFC for dams in Queensland.

Many dams in Queensland are aging and have had a long and often extended period of service life. Improving 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 improves based on experience and learnings from dam incidents around the world. These aspects drive many dam safety upgrades in Queensland.

Over recent years both SunWater and Seqwater have commenced dam safety upgrade programs. Both have adopted risk assessment for assessing AFC compliance.

Each of the water businesses conducts regular studies to assess dam safety:

- SunWater conducts annual and five-yearly comprehensive inspections and regularly updates risk assessments to assess compliance with dam safety requirements set out in the regulatory framework.¹¹ SunWater's dam safety upgrade program commenced in 2005 in response to the Bureau of Meteorology's new extreme rainfall projections.
- Seqwater regularly monitors and assesses its referable dams for dam safety compliance. 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.

Seqwater identified key changes over recent years that it has considered as part of developing its dam improvement program. These changes include new ways of measuring extreme rainfall and flood events; a greater understanding of extreme events, such as floods and earthquakes; increased downstream populations; and advances in dam design and construction.¹²

¹⁰ DEWS 2017.

¹¹ SunWater Annual Report 2016–17.

¹² Seqwater, *Dam Improvement Program*, fact sheet, August 2017, <https://www.seqwater.com.au/sites/default/files/PDF%20Documents/General/FACT%20SHEET%20-%20Dam%20Improvement%20Program.pdf>.

3 HOW WILL THE QCA APPROACH THIS REVIEW?

3.1 Legislative principles

In recommending water prices for irrigation customers, we will take into consideration the matters in section 26 of the QCA Act (**Appendix B**), inclusive of the terms of the referral (**Appendix A**)¹³. These matters include:

- economic or efficiency factors, including the costs of providing the goods or services in an efficient way, the need for efficient resource allocation and the protection of consumers from abuses of monopoly power
- non-economic factors, including social welfare and equity considerations, the availability of goods and services to consumers and the social impact of pricing practices.

The referral specifically requires the QCA to consider the following matters:

- balancing the legitimate commercial interest 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.

The above factors are consistent with regulatory pricing principles set out in a number of key documents. These include the National Water Initiative (NWI); the QCA's Statement of Regulatory Principles for the Water Sector; and the QCA's updated broad pricing principles for the water, rail and port industries.¹⁴ Where appropriate, we will use these principles in developing an approach for apportioning dam safety upgrade capital expenditure.

3.2 National commitments and positions

The Queensland Government is a signatory to NWI. Under the NWI, governments committed in 2004 to best practice water pricing to:

- (a) promote economically efficient and sustainable use of water resources, water infrastructure assets and government resources devoted to the management of water
- (b) ensure sufficient revenue streams to allow efficient delivery of the required services
- (c) facilitate the efficient functioning of water markets, in both rural and urban settings
- (d) give effect to the principle of 'user pays' and achieve pricing transparency in respect of water storage and delivery in irrigation systems, and cost recovery for water planning and management
- (e) avoid perverse or unintended pricing outcomes.¹⁵

¹³ We note that 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. These matters would include the Minister's stated matters for consideration under section 24(1)(b).

¹⁴ NWC 2004; NWC 2010; QCA 2000; QCA 2013.

¹⁵ NWC 2004.

In 2010, the National Water Commission undertook a stocktake of state approaches to water charging and identified differences in approaches to recovering capital expenditure, setting urban water tariffs and recovering the costs of water planning and management. The NWI pricing principles were then further developed to address these issues.¹⁶

3.3 Pricing objectives

Taking into consideration the section 26 matters and established regulatory objectives, prices charged to irrigation customers should:

- promote economic efficiency—prices should be cost-reflective and forward-looking, promote sustainable investment and ensure regulatory efficiency
- ensure revenue sufficiency—the water business must have sufficient revenue to ensure the efficient delivery of water services
- take account of the public interest—the pricing framework should accommodate concerns related to equity and fairness
- be transparent, simple and cost-effective to implement.

¹⁶ NWC 2010.

4 APPROACHES IN OTHER PRICE REVIEWS

We have previously considered the allocation of costs where there may be broader societal benefits. For example, in recent regulatory reviews we have considered how to recover dam safety upgrade capital expenditure, and more broadly safety-related costs.

Other Australian regulators have also considered how to allocate dam safety upgrade costs for rural bulk water customers.

4.1 The QCA's pricing principles for the water sector

The QCA has developed pricing principles to provide guidance about how to recover the costs of water services from users.¹⁷ These principles address cost allocation for dams that provide services that benefit the broader community—in particular, environmental requirements, flood mitigation services¹⁸ and recreational amenity. Environmental requirements could include fish ladders, while examples of recreational assets are picnic facilities, boat ramps, and public safety infrastructure.

The QCA 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, the QCA's preferred approach was for beneficiaries to meet the cost of these services. In the absence of any specific funding arrangements for these services, the QCA proposed including the prudent and efficient expenditure in the regulatory asset base for pricing purposes.

4.2 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, 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 could be apportioned to beneficiaries of these other services.

Dam safety upgrade capital expenditure

The Seqwater 2018–21 bulk water price review included a number of capital expenditure items for dam safety upgrades to Somerset, Lake MacDonald and Leslie Harrison dams. In our assessment of efficiency and prudence we noted that the primary driver for the dam safety upgrades were 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

¹⁷ QCA 2000.

¹⁸ 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.

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 capital expenditure associated with dam safety upgrades to the regulated asset base and recovered this expenditure through prices.¹⁹ Prices fully recovered capital expenditure 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.²⁰

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 water supply scheme, 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.²¹

Rail level crossing upgrades

While the below-rail services (i.e. track access) provided by Queensland Rail are a declared service, only the West Moreton system is subject to a reference tariff assessed by the QCA. The charges to West Moreton system access holders approved in Queensland Rail's 2016 access undertaking included an allowance for prudent and efficient capital expenditure for level crossing upgrades.

Capital expenditure for upgrading level crossings for the other parts of Queensland Rail's network has been funded through a combination of funding from state, federal and local governments, as well as through commercial business arrangements.

¹⁹ QCA 2015b.

²⁰ QCA 2013.

²¹ QCA 2012.

In general, Aurizon Network's capital expenditure program includes an allowance for prudent and efficient expenditure for level crossing upgrades that is recovered in charges to access seekers.

4.3 Approaches in other jurisdictions

In the case of rural bulk water customers, other Australian economic regulators have recognised that 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 capital expenditure 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. 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.

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. IPART said that the inclusion of legacy costs in current prices may distort the signal to users of the current and future cost of providing bulk water services. This treatment extended to other types of expenditure required to meet standards established before 1 July 1997, and sought to be consistent with IPART's previous decision to write infrastructure asset values down to zero as at 1 July 1997.²²

Dam safety compliance costs required to comply with dam safety requirements established after 1 July 1997 are equally allocated between customers (50 per cent) and government, on behalf of the broader community (50 per cent), using the impactor pays principle.

When this framework was developed, IPART considered the two primary impactors to be:

- bulk water users, as they create the need for the bulk water storage for activities
- the general community, as the driver of new regulatory standards.²³

As part of its review of WaterNSW's 2017–21 rural water prices, IPART engaged Frontier Economics to review its cost allocation approach for WaterNSW. Frontier Economics supported the impactor pays approach and said that it should be applied such that it:

- focuses on the efficient forward-looking costs of undertaking activities to meet the needs of users/impactors, and
- reflects the existing property rights established in legislation and regulation.²⁴

Under this framework, if an activity or service would no longer be required if current or future users ceased their water-related activities, then the associated cost is avoidable and not properly categorised as a legacy cost. On this basis, Frontier said that the existing treatment of pre-1997 dam safety compliance costs (0 per cent allocated to customers) is likely to be understating the forward-looking nature of these costs and overstating the true legacy costs.²⁵

²² IPART 2001.

²³ IPART 2001.

²⁴ Frontier Economics 2016.

²⁵ Frontier Economics 2016.

Frontier Economics said its property rights approach would imply that the costs of complying with legislative and regulatory obligations are passed through to end users. The existing allocation of post-1997 dam safety compliance costs (50 per cent allocated to customers) is likely to be understating the contribution of users to the need for this forward-looking expenditure. It was noted that the need to incur some costs may not be entirely driven by water users (i.e. some costs may be incurred for flood mitigation services to the broader community).²⁶

Given the issues raised by Frontier Economics, IPART has commenced a review of its rural water cost sharing framework.²⁷

In its draft report for this review, IPART proposed to continue treating the costs of bringing pre-1997 assets up to 1997 dam safety standards as legacy costs, and therefore not reflecting these costs in prices. IPART's draft decision defined legacy costs as those costs caused by past users and activities that are not attributable to current and future users of the regulated service.²⁸

For other dam safety compliance costs, IPART's draft decision was to increase the general customer share of costs from 50 per cent to 80 per cent. IPART said while the consumptive user is the major impactor of 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.²⁹

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. The ERA 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 capital expenditure of \$106 million over the period 1997–98 to 2019–20 was efficient and should be passed through to irrigators.

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.³⁰

²⁶ Frontier Economics 2016.

²⁷ See <https://www.ipart.nsw.gov.au/Home/Industries/Water/Reviews/Rural-Water/Rural-Water-Cost-Shares>.

²⁸ IPART 2018b.

²⁹ IPART 2018b.

³⁰ ERA 2013.

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 capital expenditure and a normal cost of operation.

In some instances the government has partially funded dam safety capital expenditure. 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.

5 WHAT ARE THE KEY ISSUES?

In considering the appropriate allocation of dam safety upgrade costs to irrigation customers, we will take into account a range of matters including appropriate cost allocation principles and pricing objectives such as economic efficiency and public interest.

5.1 Cost allocation principles

In order to develop an appropriate approach for apportioning dam safety upgrade costs, we will need to identify potential parties or individuals for whom to allocate costs. An appropriate approach will also need to establish a basis for allocating costs.

The allocation of dam safety upgrade costs to relevant parties or individuals may take into account the impactor (or user) pays or beneficiary pays concepts.

Impactor pays

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.

For example, if dam safety upgrades are required to meet regulatory obligations, the primary impactors are generally the direct users or customers of the bulk water supply service. In order to provide bulk water supply services to direct users, the dam owner must not only provide the dam infrastructure but also continue to meet their regulatory obligations including dam safety.

Our general approach is to allow regulated businesses to fully 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, we have typically taken the approach that safety-related compliance costs constitute a normal cost of operation for businesses and, consequently, should be passed on to direct users of a service.

For dams that also provide flood mitigation services, an additional impactor could be the broader community. In this case, the dam would typically be designed to deliver bulk water services to water customers and flood mitigation services to downstream communities. The regulatory requirements including dam safety arise because of the presence of the dam.

Under the impactor pays principle, the costs associated with dam safety upgrades would be allocated to different individuals or groups in proportion to the contribution they make to generating the costs. An appropriate cost allocator would need to be identified. For direct users, this could be on the basis of water access entitlements or the headworks utilisation factor.

Beneficiary pays

Under the beneficiary pays principle, costs are allocated to individuals or parties that derive a benefit from the costs that are incurred.

In the case of dam safety upgrades required to meet regulatory obligations, the potential beneficiaries could include:

- direct users or customers of the bulk water supply service—the dam infrastructure and any subsequent safety upgrades ensure that direct users can be supplied water for their private use with limited interruption or forgone consumption that may arise due to damage caused to the dam during an extreme rainfall or flood event

- recreational users of the dam—they benefit from the continued use of the dam with limited interruption that may arise due to damage caused to the dam during an extreme rainfall or flood event
- downstream communities—improved dam safety will reduce the risks and costs of damage or the loss of lives caused by dam failure.

The beneficiary pays principle is useful in helping to identify other groups or individuals that may benefit from the dam safety upgrade but are not direct users of bulk water supply services. Frontier Economics noted that there are two types of beneficiaries under this principle:

- direct beneficiaries—parties or individuals who derive a direct private benefit from the activity, such as irrigators using water delivery and transportation services
- indirect beneficiaries—parties or individuals who derive an indirect benefit, such as the broader community that benefits from an improved environment.³¹

Under the beneficiary pays principle, dam safety upgrade costs would be allocated to different individuals or groups in proportion to the benefit they derive from the dam safety upgrade.

5.2 Key issues to be considered in developing cost allocation approach

While we will consider all of the matters in section 26, some may be particularly relevant in the context of developing a cost allocation approach for dam safety upgrade capital expenditure. These are discussed in more detail below.

Economic efficiency

Economic efficiency is usually considered in three contexts:³²

- allocative efficiency—requires allocating scarce resources to their most highly valued uses
- productive efficiency—requires that output is produced at least 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 costs of providing the service and, usually where the demand for water exceeds supply, they potentially incorporate a value for the resource
- forward-looking—in that they represent the least cost that would be incurred in providing the requisite level of service over the relevant period.

In general, the preferred cost allocation option in any particular scenario may depend on the nature of the costs incurred. If certain costs need to be incurred to provide benefits to indirect beneficiaries, then there may be a strong case for the beneficiary pays approach. However, if costs need to be incurred irrespective of indirect user benefits, there may be a stronger case for the impactor pays approach.

³¹ Frontier Economics 2016. This approach is particularly useful where environmental harms are reduced to a standard that is higher than that required by best practice or government regulation. In this case, there is a rationale for allocating some costs to groups or individuals that have benefitted from the costs incurred.

³² QCA 2013.

In the case of dam safety compliance costs, the impactor pays principle can signal to water customers the forward-looking cost of providing the bulk water service, including costs incurred by the water businesses to comply with regulatory requirements. In response, water customers would be encouraged to use water to the extent they value it, or trade their water access entitlements (WAEs) on temporary or permanent water markets.

By contrast, the beneficiary pays principle may reduce economic efficiency in cases where water customers do not face fully cost-reflective prices. For example, this may occur where a proportion of dam safety upgrade costs are allocated to other identifiable beneficiaries such as downstream communities.

Revenue sufficiency

Revenue adequacy or sufficiency (cost recovery) is a key principle underlying any pricing framework. It requires that a water provider achieve sufficient revenue to ensure the efficient delivery of bulk water supply services, including the ability to invest in asset maintenance.

There is a risk of under-recovery of efficient dam safety upgrade costs where there are multiple individuals or parties from whom costs must be recovered. This may require the establishment of a specific funding or community service obligation mechanism to recover costs that are allocated to indirect users (i.e. the broader community).

Public interest (including fairness and equity)

Broader public interest matters (including fairness and equity) are relevant in setting prices, and are required to be taken into account by us under section 26 of the QCA Act. In practice, relevant public interest matters include social welfare and equity considerations, the social impact of pricing practices, as well as economic and regional development issues.

Any pricing structure that is thought to be equitable 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.

The QCA's Statement of Regulatory Pricing Principles³³ addressed equity and fairness issues in detail. It noted that key considerations in addressing equity and fairness issues are:

- (a) Consistency with reasonable expectations—prices should be consistent with customers' reasonable understanding of how prices would be set before investments were made.
- (b) Consistency with the proportionality principle—customers in similar circumstances should be treated equally (horizontal equity) and individuals in different circumstances should be treated in proportion to their difference (vertical equity).
- (c) Rationale for subsidies—where there are subsidies (or cross-subsidies), the rationale for these needs to be transparent.

We have considered equity and fairness issues in investigations previously. For example, in our investigation of the Burdekin Haughton scheme in 2003³⁴, we considered historical arrangements and legacy decisions. We concluded that there was evidence of an understanding within the Queensland Government and an expectation on behalf of irrigators that irrigators' payment for

³³ QCA 2013.

³⁴ QCA 2003.

land, water and cane assignments were intended as an offset against the capital costs of the scheme and that this should be taken into account in future price setting.

As previously noted by the QCA, in many instances prices that satisfy the efficiency criterion can also be seen to be fair and equitable.³⁵ For example, the 'user pays' or 'impactor pays' principle of cost recovery is consistent with the proposition that it is fair for a user of a service or an individual that causes costs to be incurred (the impactor), to pay for the relevant costs.

However, fairness may also be interpreted to encompass individuals that are not direct users or customers, as would be captured under a 'beneficiary pays' principle. Beneficiaries may include individuals that are not direct users or customers. For example, the beneficiaries of dam safety upgrades may include recreational users or the broader community, not just the direct users of bulk water supply services.

Equity and fairness issues may also arise in relation to how common costs are allocated to different user groups (for example, between direct and indirect users of bulk water supply services). For example, the impactor pays principle provides a direct link between the users of the service and the costs being incurred, but there may still be some subjectivity in the allocation of costs between these users.

Transparency, simplicity and cost effectiveness

All else equal, a methodological approach should be understandable, and feasible to implement under reasonable cost and time constraints.

An advantage of the impactor pays principle is that it is both practical and relatively simple to implement. This is because there is a direct and clear link between direct users of the service and the costs incurred in providing the service. It also promotes transparency amongst all direct users about how costs are allocated, and how the users' actions impact on the overall costs of providing the service, or generating costs.

A challenge in applying the beneficiary pays principle, especially where indirect beneficiaries exist, is quantifying the benefit that groups or individuals derive from the service, or the costs incurred. Assessing the benefit is likely to require a degree of subjectivity and judgement in determining the basis for allocating costs to indirect users. This may result in a lack of transparency about the way costs are recovered from indirect users.

5.3 Consultation questions

We invite stakeholders to consider and provide feedback on the questions below. Stakeholders are also welcome to provide comments on any other issues they think we should consider in our review.

³⁵ QCA 2013.

- (1) Do you agree that under the impactor pays principle, the impactors are the users of the services provided by the dams being upgraded (i.e. water storage and supply, and other services provided, such as flood mitigation and recreation)? If not, what do you consider is an appropriate approach to applying the impactor pays principle?
- (2) Which one of the impactor pays or beneficiary pays principles do you consider should be used as the basis for allocating dam safety upgrade capital expenditure, and why?
- (3) With reference to planned dam safety upgrades:
 - (a) In addition to bulk water supply services, are there other services that the dams being upgraded provide?
 - (b) Who are the parties or individuals that should be allocated dam safety upgrade costs for each of the services provided?
 - (c) On what basis should they be allocated costs? For example, how do their activities generate a need for, or benefit from, the costs?
 - (d) Of the parties and individuals that you identified, would you consider them to be an impactor or a beneficiary, as described in this paper?
 - (e) Based on the parties or individuals you have identified, on what basis should costs be allocated, and why?
 - (i) Amongst direct users?
 - (ii) Between direct and indirect users?
- (4) What are the expected impacts on the interests of irrigator customers of forward-looking prices that include dam safety upgrade costs? If there are significant impacts, please be specific and provide details on how these may arise.
- (5) To what extent have irrigation customers in schemes with planned dam safety upgrades made investments on the basis that dam safety upgrade costs would not generally be recovered in irrigation prices? Please provide detailed arguments and evidence to support your view.
- (6) Are there any other issues that are relevant in the context of the public interest (including equity and fairness) that you think the QCA should consider in developing an appropriate approach for apportioning dam safety upgrade costs?
- (7) Which cost allocation principle will provide direct and indirect users or beneficiaries with transparency, predictability and stability in terms of how prices that are inclusive of dam safety upgrade costs are derived?
- (8) Are there any other issues that you think are relevant to how dam safety upgrade costs should be allocated amongst parties and individuals? If so, please be specific and provide supporting reasons in your response.

GLOSSARY

ANCOLD	Australian National Committee on Large Dams
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	Queensland Department of Natural Resources, Mines and Energy
ERA	Economic Regulation Authority (Western Australia)
ESC	Essential Services Commission (Victoria)
GAWB	Gladstone Area Water Board
IPART	Independent Pricing and Regulatory Tribunal (New South Wales)
ML	megalitre (1 million litres)
NWI	National Water Initiative
QCA	Queensland Competition Authority
QCA Act	<i>Queensland Competition Authority Act 1997</i>
RAB	regulatory asset base
SEQ	south east Queensland
the price path period	the period 1 July 2020 to 30 June 2024
the referral	the referral for the review issued by the Queensland Government to the QCA under section 23 of the QCA Act
the review	the QCA's review of irrigation prices for the period 1 July 2020 to 30 June 2024
WAE	water access entitlement
WSSR Act	<i>Water Supply (Safety and Reliability) Act 2008</i>

APPENDIX A: REFERRAL

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 costs² (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 2012³ and April 2013⁴ reports); and
 - ii. an appropriate allowance for prudent and efficient expenditure on renewing existing assets⁵ (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.

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 assets⁶ 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 1Water 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 prevailing⁷ Fixed (Part A) price is above the initial⁸ 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 reached⁹.
- 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 reached¹⁰.
 - 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 reached¹¹.
- 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: SECTION 26 REQUIREMENTS OF THE QCA ACT

26 Matters to be considered by authority for investigation

- (1) In conducting an investigation under this division, the authority must have regard to the following matters—
 - (a) the need for efficient resource allocation;
 - (b) the need to promote competition;
 - (c) the protection of consumers from abuses of monopoly power;
 - (d) in relation to the goods or services to which the monopoly business activity relates—
 - (i) the cost of providing the goods or services in an efficient way, having regard to relevant interstate and international benchmarks; and
 - (ii) the actual cost of providing the goods or services; and
 - (iii) the standard of the goods or services, including quality, reliability and safety;
 - (e) the appropriate rate of return on assets;
 - (f) the effect of inflation;
 - (g) the impact on the environment of prices charged by the government agency or other person carrying on the monopoly business activity;
 - (h) considerations of demand management;
 - (i) social welfare and equity considerations including community service obligations, the availability of goods and services to consumers and the social impact of pricing practices;
 - (j) the need for pricing practices not to discourage socially desirable investment or innovation by government agencies and persons carrying on non-government business activities;
 - (k) legislation and government policies relating to ecologically sustainable development;
 - (l) legislation and government policies relating to occupational health and safety and industrial relations;
 - (m) economic and regional development issues, including employment and investment growth;
 - (n) if the monopoly business activity is a government business activity—any directions given by the government to the government agency by which the monopoly business activity is carried on.
- (2) If the investigation relates to a monopoly business activity involving the supply of water, the authority must have regard to water pricing determinations.
- (3) Subsections (1) and (2) do not limit the matters to which the authority may have regard in conducting an investigation.

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