

# Bulk Water Price Review Supplementary Submission 2023-2026



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# Executive summary

## Background

Drought can have a significant and pervasive impact on our community. As South East Queensland's (SEQ's) bulk water supply authority, we are responsible for the region's water security. We must be ready to respond to drought, with the timing, extent and duration of drought impossible to predict with any certainty.

We are required to develop and implement a drought response approach under the Water Security Program. The lessons learned during recent droughts have led us to develop a clear and detailed action plan that has sufficient flexibility to respond to the inherent unpredictability and uncertainties associated with drought. This approach will underpin our drought response plan in the updated Water Security Program version 3 (WSP2022).

In other jurisdictions, such as New South Wales, drought pricing has been introduced that serves two key purposes: (1) to maintain revenue adequacy (and hence financial sustainability) for the water provider; and (2) to signal the scarcity value of water to end users, along with other drought management strategies.

The Minister's Referral Notice for Seqwater's 2023-26 bulk water price investigation directs the Queensland Competition Authority (QCA) to recommend a 'drought allowance' that could be added to prices that apply under normal operating conditions. Under current Government policy, we can seek the full recovery of the prudent and efficient costs we incur in responding to both drought and normal operating conditions as these are fundamental to our core responsibilities in maintaining water security for SEQ.

The drought allowance would be another mechanism to recover drought costs and is also consistent with the concept of drought pricing that has been applied in some other jurisdictions. If implemented, the allowance would enable us to recover a contribution towards the additional prudent and efficient costs of operating under drought conditions as these costs are being incurred, along with foregone revenue from reduced demand. The recovery of our drought response costs is essential to ensuring revenue adequacy and financial sustainability.

## Summary of drought-related cost proposals: 2023-26 regulatory period

### Drought allowance

Having regard to the terms of the Referral Notice, we have based our proposed drought allowance costs on the following key principles:

- **Scope:** the drought allowance is intended to address the material impacts of drought.
- **Costs:** the drought allowance must only reflect the incremental costs of drought that are not already reflected in our cost forecasts under normal operating conditions.
- **Foregone revenue:** the proposed allowance allows for the recovery of foregone revenue based on an appropriate forecast of (reduced) demand in drought conditions.
- **Simplicity over complexity:** the drought allowance will reflect a clear and simple specification of our drought response costs, along with demand impacts.
- **Transparency:** we will be transparent in identifying and forecasting our proposed drought response costs.
- **Uncertainty:** the timing, severity and duration of a drought cannot be predicted with any certainty. This means that in a regulatory period:
  - it will be based on an assumed 'conceptual' drought response strategy, informed by recent experience and practice;
  - it will only include those costs that can be identified and predicted with more certainty;

- end of period adjustments will be required (based on standard regulatory mechanisms) to ensure we do not under- or over-recover our prudent and efficient costs, along with the revenue impacts of drought.

In basing our drought allowance costs on a simple ‘conceptual’ drought strategy, we assume that the region is in drought conditions at the start of the regulatory period and remains in those conditions for the duration of the four year period. The scope of the proposed allowance, as per the terms of the Referral Notice, includes:

- forecast revenue we will forego from reduced demand, informed by recent experience; and
- the material and incremental costs associated with our manufactured water assets – the Western Corridor Recycled Water Scheme (WCRWS) and Gold Coast Desalination Plant (GCDP).

For the profile of the four year regulatory period, our conceptual drought strategy assumes:

- full recommissioning of the WCRWS, noting that this is a decision of Government, which will take the first two years and eight months of the period to implement;
- once it is recommissioned, full operation of the WCRWS will continue until the end of the four year period; and
- maximised operation of the GCDP for the four year period (up to 119 ML per day on average).

The other key principle underpinning this approach is that the need to operate these facilities under the conceptual drought – and the potential costs of that operation – is known with more certainty under the Water Security Program (noting that the forecast costs are still estimates). There are other drought response costs that are more uncertain. We have not sought to include these costs within the drought allowance costs. Under current arrangements, we can apply to recover these costs at the end of the regulatory period under the Review Event mechanism.

Our proposed drought allowance costs (including estimated foregone revenue) are summarised below. If the conceptual drought commenced on the first day of the regulatory period, Year 1 would be 2022-23.

#### Total proposed drought allowance costs and foregone revenue (\$M, nominal)

	Year 1	Year 2	Year 3	Year 4	Total
<b>Revenue impact - shortfall</b>	60	74	91	110	<b>333</b>
<b>Incremental operating costs</b>	66	68	83	89	<b>306</b>
<b>Incremental capital charge</b>			3	7	<b>10</b>
<b>Incremental revenue offset (power stations and TRC)</b>	-10	-10	-10	-10	<b>-40</b>
<b>Net drought costs</b>	<b>116</b>	<b>131</b>	<b>167</b>	<b>196</b>	<b>609</b>

Based on the engagement we have had with our Retailer Customers, there are a number of issues that need to be worked through in implementing a drought allowance. As decisions relating to the potential application and implementation are a matter for Government, we will provide the feedback from this engagement to Government.

#### Normal operating conditions expenditure forecast: Confirmation of Luggage Point Advanced Water Treatment Plant step-change costs

In our bulk water price submission lodged with the QCA in June 2021, we discussed our drought response initiative to partially restart the Luggage Point Advanced Water Treatment Plant (AWTP), which is part of the WCRWS, to supply industrial users (refer section 6.3.3.1 of our bulk water price submission). The Luggage

Point AWTP will now be in a more advanced state of readiness to respond to drought. The consequential increase in maintenance costs is proposed as a step-change to our operating expenditure forecast.

Although we made the decision to restart one train at Luggage Point in 2019, the decision to restart a further two trains was only a recent initiative to further increase supply to industrial users and reduce the amount of water drawn from Wivenhoe Dam. At the time of finalising our bulk water price submission, we were still refining the ongoing operating costs as this required input from the contracted operator, Veolia. We advised that we would provide these updated costs as part of this supplementary submission on our proposed drought allowance costs. These costs are contained in this submission.

The proposed costs relate to maintaining the state of readiness of the recommissioned assets, both to maintain the membranes and allow for flushing of the WCRWS network pipeline, as well as to maintain the currency of the regulatory approvals. This will allow us to respond in a more agile fashion to future drought conditions as they arise. This assists in future water security and timely responses to drought.

## 1 Introduction

The Minister's Referral Notice for Seqwater's 2023-26 bulk water price investigation by the Queensland Competition Authority (QCA) was released on the 16<sup>th</sup> of June 2021. The Referral Notice requires the QCA to recommend a drought allowance that could be applied in the 2023-26 regulatory period, in addition to prices under normal operating conditions (section (C)(17)).

As required under that Referral Notice, we lodged our bulk water price submission on the 30<sup>th</sup> of June 2021. This submission proposed our revenue requirement under normal operating conditions only, with drought allowance costs to be provided in this supplementary submission.

In the week commencing 12 July 2021, combined SEQ Water Grid storage levels fell below 60%, meaning that the region is now officially in drought.

While our region is currently in drought, the requirement for the QCA to recommend a drought allowance for the 2023-26 regulatory period – and hence our proposed drought allowance costs for that period – is independent of the current operating conditions (noting that the region may or may not be in drought at the start of the next period). As will be discussed further in this submission, this is because our understanding of the intent of the Referral Notice is to allow for the QCA to make a recommendation on the allowance that could be applied if the relevant drought triggers were met during the period, regardless of whether this is at the beginning of the regulatory period or at some point during the period. The potential application of a drought allowance will be a decision for Government.

This supplementary submission will address our proposed approach to estimating the drought allowance costs for the 2023-26 regulatory period, having regard to the requirements of the Referral Notice.

Where relevant, references are made to our bulk water price submission submitted on 30 June 2021 (the bulk water price submission), which is to be read in conjunction with this supplementary submission.

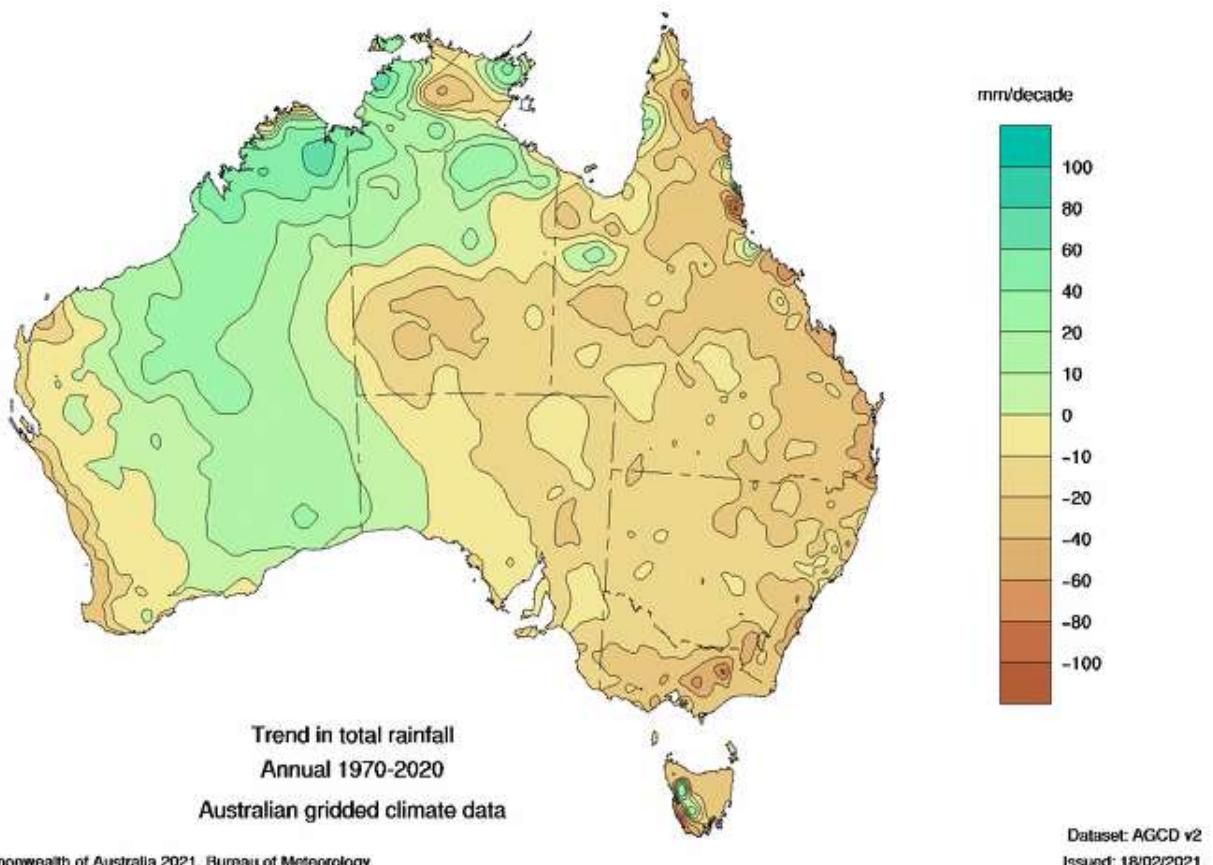
## 2 The impact of drought

### 2.1 Seqwater's Drought Response Plan

Despite being nearly ten years since the end of the Millennium Drought in SEQ, the pervasive impact of drought on the lifestyles and livelihoods of residents, businesses, farms and industries remains prominent, particularly in the face of a changing climate. A number of important lessons were learned through that experience. It also resulted in significant investment in contingent supply sources (or manufactured water sources that are not rainfall dependent), including the Gold Coast Desalination Plant (GCDP) and Western Corridor Recycled Water Scheme (WCRWS). While this does not make the region 'drought proof' these assets are a key part of augmenting supplies and improving system resilience.

While the likelihood, timing, duration and severity of drought is impossible to predict, what is certain is that droughts are part of our way of life and will continue to occur in the future. The following chart shows the trend in total rainfall in Australia since 1970.

Figure 1 Trend in total rainfall



Source: <http://www.bom.gov.au/climate/change/?ref=ftr#tabs=Tracker&tracker=trend-maps&tQ=map%3Darea%26area%3Das%26season%3D0112%26period%3D1970>

As SEQ's bulk water supply authority, we are responsible for the region's water security and must be ready to respond to drought. This is an ongoing priority. Customer and community engagement is a key part of this, as outlined in Chapter 2 of the bulk water price submission.

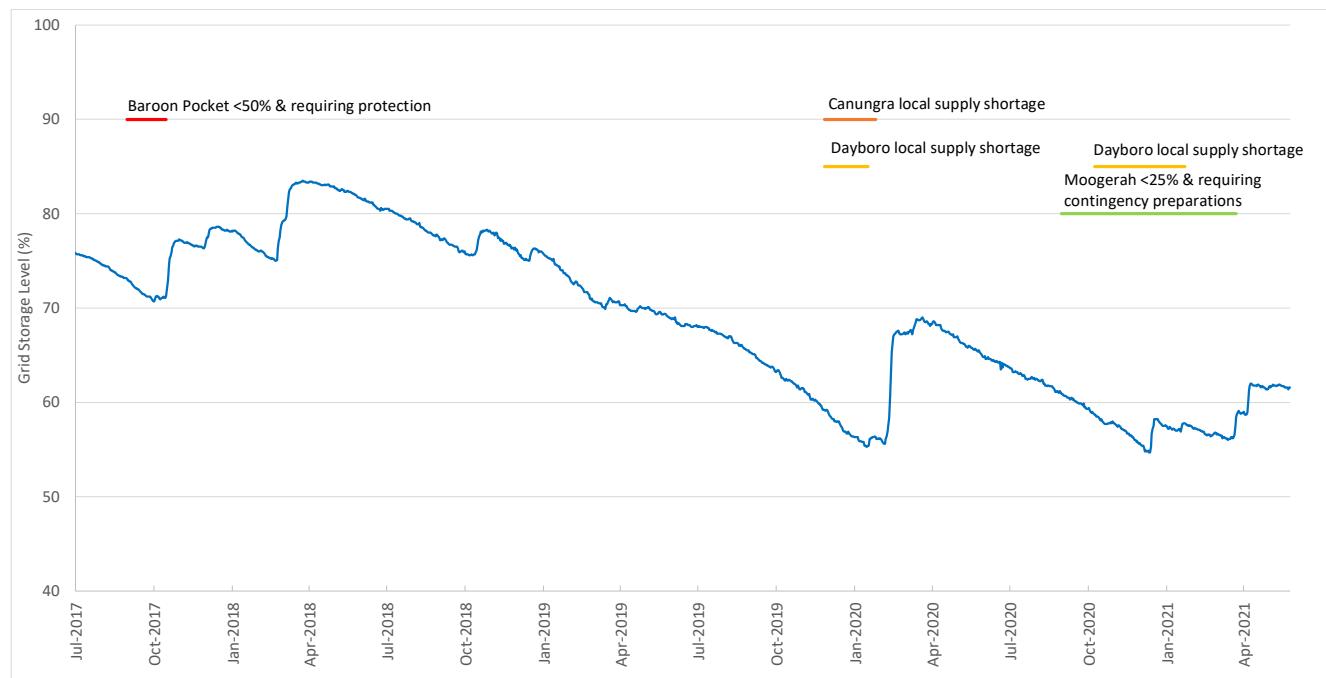
Managing the region's water security during drought is a key aspect of the current Water Security Program 2017 version 2 (WSP2017). As explained in our bulk water price submission, the Water Security Program has been reviewed by the Queensland Water Supply Regulator<sup>1</sup> (the Regulator). Under the Water Security Program we are required to develop and implement a drought response approach and meet the Level of Service Objectives for drought, which are set by the Government under the *Water Regulation 2016*.

The current Drought Response Plan under the WSP2017 identifies the actions required as combined storage levels reach specified trigger points, which also requires us to undertake preparatory work to ensure that the SEQ Water Grid is at a state of readiness as a trigger point is reached. This also enables our Retailer Customers and the community to understand the types of actions to be undertaken around this trigger.

As discussed in Chapter 1 of our bulk water price submission, our revised Water Security Program is currently under development and is due for release in March 2022. Version 3 of the Water Security Program (WSP2022) will contain an updated drought response strategy and will again include drought response triggers and actions. Those updated triggers will become the relevant triggers for the purpose of defining 'drought operating conditions' under section (C)(16) of the Referral Notice. It is also important to note that under section 359 of the *Water Act 2000*, apart from requiring a review of the Water Security Program at least once every five years, a further review could be required "if there is a significant change in any matter affecting, or likely to affect, the achievement of the desired level of service objectives for water security".

The updated drought response strategy will reflect the ongoing experience and lessons learned in managing drought. Key to this is enabling a clear and detailed action plan that responds to the inherent unpredictability and uncertainties associated with drought. This uncertainty is highlighted by the recent fluctuations in the combined SEQ Water Grid storage levels, which have moved between around 55% and 70% over the last two years. It also highlights areas of localised supply shortages that require response. As at the 10<sup>th</sup> of August 2021, these storage levels were at 59%.

**Figure 2**    SEQ Water Grid storage levels



<sup>1</sup> The Director General of the Department of Regional Development, Manufacturing and Water

The Water Security Program identifies triggers for action or review to optimise drought response options for system operations, demand management measures and supply infrastructure.

We choose to adopt an adaptive management approach to drive better outcomes for the community. In essence, the adaptive management approach means that experienced staff make risk and opportunity assessments based on data, context and knowledge of the network to identify opportunities to save money and drive better outcomes than a literal, rigid application of the triggers cited in the Water Security Program.

For example, the WSP2017 allows for the restart of the WCRWS as soon as the 60% trigger is reached. This occurred just before the wet season in 2019. In response, we instead undertook a risk assessment, which indicated that there was an acceptable risk to defer restart until after summer, providing an opportunity for rain to replenish SEQ Water Grid storage levels. The adaptive management approach, as illustrated by this one example, has saved significant costs while maintaining water security.

Demand management is also a very important part of drought response. This ranges from raising awareness of water scarcity and efficiency, through to mandatory restrictions, with medium-level restrictions currently invoked under the WSP2017 when SEQ Water Grid storage levels fall below 50%. If these strategies are successful, the demand reductions assist in slowing progression to subsequent trigger points.

## 2.2 The implications of drought

### 2.2.1 Implications for water supply

The most obvious impact of drought is a reduction in water supply. This requires us to optimise the management of the SEQ Water Grid and to produce manufactured water through facilities that were constructed following the Millennium Drought. Other contingent supply source augmentations may also be required, necessitating additional capital investment.

When storage levels are low, certain risks in maintaining water quality can also increase, which could necessitate additional operating expenditure. Raw water extracted from low river or lake levels contains greater concentrations of contaminants. To maintain compliance with the Australian Drinking Water Guidelines and contractual obligations, additional chemical dosing is required and more sludge is produced, resulting in higher treatment costs.

### 2.2.2 Implications for costs and cost recovery

There are two main financial implications of drought on our business and our financial sustainability.

The first is that it will see a short-term increase in operating and capital costs as a consequence of our drought response strategy, including (but not limited to) the costs associated with operation of the GCDP and WCRWS. Both supply sources are more expensive to operate than conventional sources such as dams and weirs.

The second impact is that the demand for bulk water will fall. Our revenue will therefore also fall. A fundamental difference between Seqwater and other bulk water providers (as well as distribution and retail providers) is our fully volumetric tariff structure. Under our fully volumetric tariff, there will be a one-for-one correlation between reduced demand and loss of revenue. This contrasts with the pricing of bulk water and distribution services elsewhere in Australia, where at least some portion of that revenue remains fixed (and hence invariant to changes in volume) via a fixed tariff component. Under current policy, we must wait until the end of each regulatory period to recover foregone revenue via the true-up mechanism.

## 3 Drought pricing in other jurisdictions

### 3.1 Application in other jurisdictions

#### 3.1.1 New South Wales

##### 3.1.1.1 WaterNSW

In New South Wales, the costs of the bulk water provider, WaterNSW, are passed through to Sydney Water and its local government customers as an opex line item. In 2020 WaterNSW's 2020-24 metropolitan pricing review was concluded by the Independent Pricing and Regulatory Tribunal (IPART). WaterNSW had raised the impacts of drought in its regulatory proposal.<sup>2</sup> IPART approved a higher capital program for WaterNSW compared to the previous period, which was mainly aimed at drought response and improving system resilience<sup>3</sup>.

Further, in order to manage the volume risk associated with drought, and recognising that the majority of WaterNSW's costs are fixed, IPART approved 'dynamic water usage prices' (noting that variable usage prices only comprise 20% of Water NSW's tariff structure). These prices are designed to increase during drought to enable WaterNSW to recover the same total revenue from reduced water sales.<sup>4</sup> It has forecast two demand (water sales) scenarios in drought and non-drought.

A '60/70' trigger will operate to transition between the drought and non-drought usage price. Application of the drought usage price will commence 31 days after storage levels fall below 60%, with the usage price reverting to non-drought 31 days after storage levels reach 70%.<sup>5</sup>

WaterNSW's water usage charge is already adjusted for the supply of water from the Sydney Desalination Plant (SDP), which may be required during drought (noting that the SDP could be operating for other reasons). The dynamic usage price is a separate adjustment to account for reduced demand during drought, as defined under the specified trigger periods, where a demand reduction of 17% has been assumed. IPART observed that:<sup>6</sup>

"If Water NSW's efficient costs were expected to increase during drought, there would be a strong case to reflect these higher drought related costs in the drought usage price (rather than the non-drought price), as we have done in the concurrent 2020 Sydney Water and Hunter Water reviews. This is because we consider cost reflective pricing promotes efficient usage and investment decisions. This will also ensure that the utility recovers its efficient costs during drought, and send a price signal to customers during times of relative water scarcity."

The dynamic usage price has been designed to operate in a consistent way to the approach approved for Sydney Water (see below), which accounts for 99% of WaterNSW's metropolitan bulk water supply revenue. The drought usage price charged to Sydney Water would be around 19.7% higher than the non-drought usage price. It considered that WaterNSW's other local government customers were free to determine how they would pass this on to customers.

It noted that stakeholders had generally supported this proposal as put forward in its Draft Report.

<sup>2</sup> WaterNSW (2019). WaterNSW Pricing Proposal to the Independent Pricing and Regulatory Tribunal, Regulated Prices for Greater Sydney 2020-2024.

<sup>3</sup> Independent Pricing and Regulatory Tribunal (2020a). Review of Prices for WaterNSW Greater Sydney, Final Report. June.

<sup>4</sup> Independent Pricing and Regulatory Tribunal (2020a). p.4.

<sup>5</sup> This reflects the approach approved for Sydney Water, which is intended to give one months' notice to customers of the pending price changes.

<sup>6</sup> Independent Pricing and Regulatory Tribunal (2020a). p.76.

### 3.1.1.2 Sydney Water

In Sydney Water's price determination for the 2016-20 pricing period, IPART approved the inclusion of specific bulk water charges to provide scarcity signals to users.<sup>7</sup> These are a pass-through of:

- SDP costs if operation mode is invoked (noting that Sydney Water still also bears the costs of the plant in shutdown mode); and
- Shoalhaven transfer costs, which is a service charge cost pass-through. WaterNSW must pump water from the Shoalhaven system when Sydney's dam levels fall to 75% and continue until they rise above 80%.

The SDP's charges are also approved by IPART. Three sets of prices now apply, depending on whether the plant is in shutdown mode, restart mode or operating mode.

The review of prices to apply for Sydney Water for the 2020-24 period was also completed in 2020.<sup>8</sup> In addition to increases in forecast expenditure, Sydney Water had proposed additional drought-related cost pass-throughs that would be activated at specified trigger points. It submitted:<sup>9</sup>

“We can no longer exclude the impacts of drought from prices in 2020–24. To do so would put our ability to fund the delivery of our core services at risk...

The magnitude of the contribution we are seeking from our customers will vary depending on the length and severity of the drought, and the timing of government decisions. We are planning for \$670 to \$800 million of uncontrollable drought related costs. In addition, we may need to recover about \$1.5 billion through bills to make up for an equivalent amount of revenue that we may not recover as a result of much lower water consumption than usual.”

As a cost pass-through mechanism did not address the impact of revenue shortfalls as a consequence of lower demand, it also proposed a Demand Revenue Adjustment Mechanism (DRAM) to allow it to recover the revenue shortfall associated with water usage being below forecast during the pricing period.

IPART did not accept Sydney Water's proposed DRAM but did approve the application of the dynamic water usage price, which operates in the same way as the approach approved for WaterNSW. It also considered alternatives such as a scarcity price and inclining block tariff, concluding that a single drought tariff appropriately balances simplicity with cost reflectivity. IPART also approved “record” capital expenditure, recognising the need for Sydney Water to be able to continue to build drought resilience. It also allowed for additional operating expenditure of \$80M per year in drought periods.

To calculate the drought usage price, IPART adjusted the proposed non-drought usage price for the following:

- the additional operating expenditure for drought periods
- a reduction in water sales forecasts of 15%
- an adjustment to allow for the demand response to the higher water usage price.

This resulted in a drought usage price that is 35% higher than the non-drought usage price.

The dynamic usage price was also approved for Hunter Water Corporation.<sup>10</sup>

<sup>7</sup> Independent Pricing and Regulatory Tribunal (2016). Review of Prices for Sydney Water Corporation: From 1 July 2016 to 30 June 2020, Final Report.

<sup>8</sup> Independent Pricing and Regulatory Tribunal (2020b). Review of Prices for Sydney Water, Final Report. June.

<sup>9</sup> Sydney Water (2019). Keeping Sydney Liveable, Productive and Thriving for a Sustainable Future, Update to 1 July Pricing Proposal, November, p.48.

<sup>10</sup> Independent Pricing and Regulatory Tribunal (2020c). Review of Prices for Hunter Water Corporation, Final Report, June.

### 3.1.2 Victoria

Unlike the SDP, the Victorian Desalination Plant's role is not limited to when water supplies reach critical levels. Instead, it makes an ongoing contribution to Victoria's water supplies based on annual water orders issued by the Victorian Government, delivering up to one-third of annual demand. The pricing arrangements for this plant comprise a separate fixed headworks price and a variable usage price, which are approved by the Essential Services Commission for each year of the regulatory period.

### 3.1.3 Other jurisdictions

Drought tariffs have been introduced in other jurisdictions, including in California, where the key rationale has been to encourage water conservation. This has also highlighted the need for appropriate messaging, including clearly explaining to users why prices still need to rise while they are also being asked to conserve water:

“Agencies need to emphasise the need for higher prices alongside increased conservation during droughts to ensure customer buy-in. But a big advantage of a drought pricing policy is that customers understand in advance that prices need to go up to keep their water system solvent, rather than feeling blindsided by a rate increase after the fact.”<sup>11</sup>

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<sup>11</sup> Chappell, C. & Hanak, E. (2014). Drought Watch: Rethinking Urban Water Pricing, Public Policy Institute of California, <https://www.ppic.org/blog/drought-watch-rethinking-urban-water-pricing/>

## 4 Our proposed drought response costs

This section provides:

- an update of our drought-related costs under normal operating conditions, as flagged in our bulk water price submission; and
- our proposed drought allowance costs for the 2023-26 regulatory period.

### 4.1 Referral Notice

Section (C)(15) requires the QCA to recommend a drought allowance that could be applied in the 2023-26 regulatory period, in addition to prices under normal operating conditions. We interpret the intent of this as to provide us with total revenue sufficient to recover material prudent and efficient costs associated with Drought operating conditions, which is “where Seqwater is operating at or below the ‘Drought Response’ trigger under the published Water Security Program for the length of the Regulatory Period” (section (C)(16)).

Section (C)(17) provides that the Drought Allowance is to:

- “(a) include the incremental costs expected to be incurred during drought operating conditions including, but not limited to, costs associated with water conservation measures, and mobilisation of the Gold Coast Desalination Plant and the Western Corridor Recycled Water Scheme, with a focus on cost areas which are material rather than cost areas which are likely to have a minor and inconsequential impact in total;
- “(b) account for reduced forecast demand during drought operating conditions, noting that the Authority can make adjustments to the drought operating conditions forecast demand to ensure it is appropriate for regulatory pricing purposes as long as any Authority adjusted forecast remains at or above target demand consistent with medium level water restrictions as published in the Water Security Program (not including demand from power stations and Toowoomba Regional Council); and
- “(c) remain constant in real terms for the duration of the Regulatory Period.”

### 4.2 Retailer Customer engagement

In the lead-up to the 2023-26 bulk water price investigation we have been engaging with our Retailer Customers on the concept and potential application of drought pricing. While this engagement was primarily conducted at officer level (and does therefore not reflect any agreed positions), these discussions were very productive and provided us with extremely useful insights and feedback. As decisions relating to the potential application and implementation are a matter for Government, we will provide the feedback from this engagement to Government.

### 4.3 Drought-related costs under normal operating conditions

Our bulk water price submission lodged on 30 June 2021 presented our forecast costs for the 2023-26 regulatory period under normal operating conditions. This included the costs of drought-related activities that are incurred as part of our ‘business as usual’ approach to the management of water security.

#### 4.3.1 June 2021 bulk water price submission

Our 2019-20 baseline costs under normal operating conditions include hot standby operating costs for the GCDP and maintenance costs for the WCRWS (while dormant).

The June 2021 bulk water price submission included costs relating to proactive drought management (resourcing) as a proposed step change. In section 6.3.3.1 of that submission we also flagged an opex step

change for costs associated with the operation of the Luggage Point Advanced Water Treatment Plant (AWTP) to supply industrial users. We indicated that we would confirm those costs in our drought allowance supplementary submission.

The WCRWS is one of our key future water supply assets. The WSP2017 allows for recommissioning of the WCRWS to commence at combined SEQ Water Grid water levels of 60%. If this does commence, Veolia, the operator of the facility, estimates it will take two years and eight months before the facility will be fully operational, including having the necessary regulatory approvals in place.

We recommissioned a small part of the WCRWS at the end of 2017 as combined SEQ Water Grid storage levels started to decline. While many benefits were identified, the primary driver for this initiative was to increase operational understanding of the requirements to recommission and operate the infrastructure, which had been dormant for many years. This would facilitate successful full recommissioning of the WCRWS should it be required. To enable this strategy, approximately 6ML per day of purified recycled water (PRW) was supplied to industry by one train at the Luggage Point AWTP, commencing 1 January 2019.

As part of our submission to the 2018-21 bulk water price investigation, we proposed that costs for this initiative be included in the revenue requirement used to set our bulk water prices. The QCA accepted the advice of its consultant, KPMG, who considered that we had not sufficiently justified our proposal to recover these costs. It did note that at the time, SEQ Water Grid storage levels were above 80%, and it also stated that the timing of our submission on this matter did not allow it sufficient time to consider, including consulting with stakeholders. KPMG recommended that “if the trigger point is breached, and Seqwater incurs costs related to remobilising Luggage Point ATP, it seeks to review these costs ex-post through the drought response review events mechanism.”<sup>12</sup>

Since the time of this evaluation, the combined SEQ Water Grid storage levels have subsequently declined. For most of the last financial year, the combined storage levels have been less than 60%.

As a drought response initiative, in November 2020 we increased supply of PRW to industry from the commissioned WCRWS train to up to 23/ML per day. This allowed us to offset demand that otherwise would have been drawn from Wivenhoe Dam in a cost-effective way, incurring only an incremental additional cost over existing operations. In the absence of our ability to do this, these supplies would have continued to be drawn from Wivenhoe Dam, increasing pressure on already constrained SEQ Water Grid storage levels.

Further to this initiative, in March 2021, we decided to recommission two additional trains at the Luggage Point AWTP to supply additional PRW to industry. Recommissioning of the two additional trains will allow a total of up to 70 ML per day to be supplied to industry (expected in April 2022), reducing demand from Wivenhoe Dam by a corresponding amount.

#### 4.3.2 The benefits of partial recommissioning and operation of the WCRWS

The implementation of the above initiatives has allowed the WCRWS to demonstrate that it can reliably produce high quality water for a sustained period of time, which is considered helpful for increasing public confidence. The PRW produced has directly reduced water demand from Wivenhoe Dam as part of our efforts to mitigate drought.

When assets have been recommissioned for drought, once the drought has ended, a decision needs to be made about the state to which the assets will be returned. That is, will the assets be decommissioned (i.e. back to a dormant state) or will they remain partially recommissioned in a state of readiness. This decision requires us to assess the potential trade-off between costs and the time required for the assets to next become operational when they are needed to provide supply, which is water security.

Having regard to this trade-off, once the region is no longer in drought we do not intend to return the partially recommissioned sections of the WCRWS (i.e. Luggage Point) back to their previous dormant state. Instead, we

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<sup>12</sup> KPMG (2018). Seqwater Expenditure Review Prudence and Efficiency Assessment, March, p.xxv.

are proposing that the future normal operating conditions of the WCRWS (i.e. when the Water Grid storage levels are above 60%) includes producing up to 6ML a day of PRW to supply to industry.

The step change costs are incremental to the baseline costs of maintaining the full WCRWS in a dormant state.

The main reasons for this decision are to continue to build confidence and assist in timely regulatory approval, reducing the timeframe needed for a potential full recommissioning. The step change in costs relating to the WCRWS allow us to respond in a more agile fashion to future drought conditions as they arise (as new membranes do not need to be manufactured and imported from overseas). It assists us to maintain customer relationships and operational understanding, that facilitates drought responses when required, assisting in future water security.

Our primary objective in supplying PRW to industry is not as a source of supply to these users – the objective is to deliver longer term benefits in maintaining water security for the entire SEQ Water Grid. As with our overall approach to managing water security, including adaptive drought management, we will continue to monitor and review this position over time having regard to its costs and benefits.

Because the restart of the additional two trains was only a recent initiative, at the time of finalising our bulk water price submission we were still refining the ongoing operating costs, which required input from the contracted operator, Veolia. We advised that we will provide these updated costs as part of this supplementary submission on our proposed drought allowance costs. These costs are set out below.

#### **4.3.3 Proposed update to forecast operating expenditure in normal operating conditions**

We are therefore proposing to include the ongoing costs of this low flow care and maintenance mode of operation at the Luggage Point AWTP as a step change from the base year used to forecast our operating expenditure for the 2023-26 regulatory period.

Overall, we consider this to be generally consistent with the regulatory treatment of the SDP in New South Wales, where an allowance is provided even while the facility is in full shutdown mode (covering ongoing maintenance costs). IPART has described this as “a form of drought insurance premium or water security payment.”<sup>13</sup> However, the key differences are that the different operational characteristics and higher risk profile of PRW justifies an ongoing low flow operation rather than full shutdown, which is also expected to reduce costs in the longer term. Being able to supply these low volumes to industrial customers makes efficient use of the water produced however is not the driver of that low flow operation – the key driver is the ongoing benefits that will accrue in terms of water quality and security for all users.

The costs of full production of the three Luggage Point AWTP trains of up to 70ML per day is a drought response cost – it is an incremental additional cost that occurs in times of drought and is therefore appropriate to be captured in the drought allowance. To be clear, we will net off the forecast costs of ongoing low flow care and maintenance from our proposed drought allowance costs, to ensure they are not double counted. Our forecast costs are based on estimates provided by the facility’s operator, Veolia.

An adjustment to normal operating costs (or ‘fair weather’ costs) is proposed to support the low flow care and maintenance mode for the Luggage Point AWTP, should SEQ Water Grid storage levels substantially improve. However, at this stage we are not proposing to include a similar increase to account for increased maintenance for the entire WCRWS, given the uncertainty as to the timing of the return to normal operating conditions once the region is no longer in drought. As these costs will be incurred as part of our drought response, we will seek to recover these at the end of the regulatory period via the Review Event mechanism.

The proposed step change for the Luggage Point AWTP costs under normal operating conditions is presented in the table below. This replaces Table 6.3 in our bulk water price submission.

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<sup>13</sup> Independent Pricing and Regulatory Tribunal (2017). Sydney Desalination Plant Pty Ltd, Review of Prices from 1 July 2017 to 30 June 2022, Final Report. p.5.

**Table 1 Forecast expenditure for Luggage Point AWTP: normal operating conditions (\$'000, 2019-20)**

Item of Expenditure	2022-23	2023-24	2024-25	2025-26	2026-27 <sup>1</sup>	2027-28 <sup>1</sup>
Forecast (Base)	11,042	11,042	11,042	11,042	11,042	11,042
Step	7,181	7,181	7,181	7,181	7,181	7,181

The balance of this section addresses our proposed drought allowance costs for the 2023-26 regulatory period.

## 4.4 Principles to be applied in the development of the drought allowance

Having regard to the terms of the Referral Notice, our proposed drought allowance will reflect the following principles:

- **Scope:** the drought allowance is intended to address the material impacts of drought.
- **Costs:** the drought allowance must only reflect the incremental costs of drought that are not already reflected in our cost forecasts under normal operating conditions.
- **Foregone revenue:** the proposed allowance allows for the recovery of foregone revenue based on an appropriate forecast of (reduced) demand in drought conditions.
- **Simplicity over complexity:** the drought allowance will reflect a clear and simple specification of our drought response costs, along with demand impacts.
- **Transparency:** we will be transparent in identifying and forecasting our proposed drought response costs.
- **Uncertainty:** the timing, severity and duration of a drought cannot be predicted with any certainty. This means that in setting a proposed drought allowance at the start of a regulatory period:
  - it will be based on an assumed ‘conceptual’ drought response strategy, informed by recent experience and practice;
  - it will only include those costs that can be identified and predicted with more certainty;
  - end of period adjustments will be required (based on standard regulatory mechanisms) to ensure we do not under- or over-recover our prudent and efficient costs, along with the revenue impacts of drought.

These principles are discussed below.

### 4.4.1.1 Scope: material costs of drought

Based on the terms of the Referral Notice, the purpose of the drought allowance is to address the material impacts of drought, rather than the minor or inconsequential impacts. This is consistent with the current Review Event provision, which enables us to seek to recover the material impacts of drought via a mid-period price review.

### 4.4.1.2 Incremental costs of drought

The drought allowance must only reflect the incremental costs of drought. It is therefore important for there to be no double counting (or double recovery) of costs. With certain drought-related activities part of our core business activities, Chapters 5 and 6 of our bulk water price submission have clearly identified those costs that are reflected in our proposed forecasts under normal operating conditions. Some of these drought-related costs have been updated further in the development of our drought allowance, as explained in section **Error! Reference source not found..**

The drought allowance is also only intended to capture the *material* incremental costs of drought, such as the costs associated with a full restart of the WCRWS.

#### **4.4.1.3 Simplicity over complexity**

The path of any single drought event can vary based on a range of factors, which also requires a flexible and adaptive drought response strategy over the course of that event. Not only is this impossible to predict with any certainty for the purpose of setting the drought allowance, allowing for this flexibility could also potentially increase complexity (without necessarily producing any benefits). We are therefore proposing a single drought response scenario – and strategy – for the purpose of informing the QCA's recommended drought allowance.

#### **4.4.1.4 Transparency**

It is important for the QCA and all stakeholders to be able to see how any drought allowance has been determined. One of the key reasons for this is to ensure that there is no ‘double counting’ of our drought response costs having regard to drought-related costs (including drought preparedness strategies) that are contained in our normal operating conditions forecast.

It will also be important to the extent that the drought allowance is applied during the regulatory period and end of period adjustments are required. This includes any claims under the Review Event provision to address the residual drought response costs that we have incurred but may not have been included in the calculated drought allowance. It can also allow us to adjust for any revenue recovered for costs that may have been forecast but were able to be avoided, including due to adaptive drought management or because the drought was less severe or shorter than anticipated.

#### **4.4.1.5 Addressing uncertainty**

As noted above, the timing, severity and duration of drought is impossible to predict with any certainty. In view of this our proposed drought allowance costs are based on three sub-principles:

1. We are assuming a single ‘conceptual’ drought response scenario in terms of demand and cost impacts, which is specified below. This is also consistent with the principles of simplicity and transparency.
2. We are only including the costs that can be predicted with more certainty rather than costs that could vary over the course of the drought. As will be outlined below, the key material cost impact that is reflected in our proposed drought allowance is the full recommissioning of the WCRWS. This is also consistent with the principle of simplicity and transparency.
3. Existing regulatory mechanisms can be used to ensure that we do not under- or over-recover the financial impacts of drought. This is addressed in section 4.5.3.2.

### **4.4.2 Relevant regulatory precedent**

There is limited regulatory precedent that can be drawn upon in terms of the assessment of costs that are relevant to a drought allowance. As outlined above, the only potentially relevant treatment in Australia is IPART’s assessment of the SDP’s costs. Similar to the WCRWS and GCDP, the SDP was built for the purpose of ensuring water security for the Greater Sydney region and is required to operate when storage levels fall below a trigger level (currently 60%).

To the extent relevant, we have therefore had regard to this in developing our proposed drought allowance costs, however there are also some important differences that need to be considered. These include:

- Fundamental differences between the production of water from desalination versus purified recycled water. These include significantly longer lead times in recommissioning a purified recycled water facility.
- More stringent legislative and regulatory obligations governing the production of recycled water, reflecting a higher risk profile.

- Differences in ownership structure – the SDP is independently owned and operated as a separate commercial entity, having regard to the conditions of its long-term lease with the New South Wales Government. The SDP is also able to supply water directly to industrial users for discretionary purposes. The structural arrangements also result in different incentives for operation.
- Different obligations in relation to operations, with the SDP's operations subject to the Metropolitan Water Plan.
- A different regulatory framework, with the SDP being a single asset entity separately regulated by IPART.

## 4.5 Proposed drought allowance costs

We have prepared our proposed drought allowance costs having regard to the principles set out in section 4.4.

### 4.5.1 Foregone revenue

#### 4.5.1.1 Demand

For the purpose of estimating our foregone revenue we require a forecast of demand under drought operating conditions. Clearly this is extremely difficult given the severity and duration of a drought is highly uncertain. There is also some uncertainty as to how users will respond in drought conditions, including the extent to which they will voluntarily reduce demand in response to demand management messaging and initiatives.

The Referral Notice is not specific in terms of our demand forecast for the purpose of the drought allowance. However, section 17(b) allows the QCA to adjust that forecast to ensure it remains appropriate for regulatory pricing purposes “as long as any Authority adjusted forecast remains at or above target demand consistent with medium level water restrictions as published in the Water Security Program (not including demand from power stations and Toowoomba Regional Council)”. As explained in our bulk water price submission, the relevant Water Security Program for the purpose of the 2023-26 regulatory period will be the WSP2022, which is still under development.

We consider that our most recent experience in the current drought is the most appropriate information base to use in attempting to forecast demand under drought operating conditions. On this basis our proposed forecast is 163 litres per day (LPD), based on recent actual demand in drought response. This figure was derived considering residential demand data since the 60% SEQ Water Grid storage trigger was reached in mid-September 2020.

Having regard to our principles contained in section 4.4, this is also a clear, transparent and simple approach. It also remains above the target demand consistent with medium level water restrictions (140LPD).

It is extremely difficult to forecast demand in drought, as it is influenced by variables such as rain and (potentially) COVID restrictions, however this is considered our best estimate at the current time. It is therefore also considered the most appropriate forecast to use for regulatory pricing purposes, noting that any differences could be captured by an end of period adjustment, consistent with the approach applied in the current and prior regulatory periods (see below).

#### 4.5.1.2 Proposed estimate of foregone revenue

With a fully volumetric tariff, the change in our revenue is directly correlated with changes in volume. In accordance with maintaining simplicity and transparency, our foregone revenue will therefore reflect the product of the assumed reduction in volume and the bulk water price in normal operating conditions. This estimate is provided below. If the conceptual drought commenced on the first day of the regulatory period, Year 1 would be 2022-23.

**Table 2 Estimate of foregone revenue under drought operating conditions (\$M, nominal)**

	Year 1	Year 2	Year 3	Year 4	Total
<b>Revenue impact - shortfall</b>	60	74	91	110	<b>333</b>

#### 4.5.1.3 Proposed estimate of additional revenue to offset drought allowance costs

Under drought conditions, our supply to power stations and Toowoomba Regional Council is expected to increase. We will offset this additional revenue from our total drought allowance costs. The forecast of this additional revenue derived under drought conditions is provided below.

**Table 3 Estimate of additional revenue to be offset against drought allowance costs (\$M, nominal)**

	Year 1	Year 2	Year 3	Year 4	Total
<b>Incremental revenue offset (power stations and TRC)</b>	10	10	10	10	<b>40</b>

## 4.5.2 Costs of drought

### 4.5.2.1 Scope

Based on the principles set out in section 4.4, we have sought to forecast drought allowance costs based on the material and incremental costs of drought. Having regard to these principles, we are limiting our proposed drought response costs to the forecast costs associated with our two manufactured water assets – the WCRWS and GCDP. This includes the full recommissioning and operation of the WCRWS and up to full operation of the GCDP. There are other costs we are likely to incur as part of our drought response that have not been included in the scope of the drought allowance costs (that do not satisfy our other principles in relation to materiality and/or certainty). These are listed in Table 7 below.

This scope is consistent with the current triggers in the WSP2017 when SEQ Water Grid storages fall below 60%. While the WSP2022 will reflect our updated adaptive drought management strategy, this is still considered appropriate for the purpose of setting our drought allowance at the current time and enables a clear and transparent link to be made between our drought response costs and the Water Security Program.

### 4.5.2.2 Our ‘conceptual’ drought response strategy

The uncertainties associated with drought necessitate a ‘conceptual’ drought response strategy for the purpose of proposing drought allowance costs, informed by recent experience and practice. While the objective in setting our forecasts under normal operating conditions is to minimise the likelihood of an under- or over-recovery of our prudent and efficient costs (noting the inherent risks involved with this), this is extremely difficult to do in the case of drought. That is, it is impossible for us to fully anticipate these costs to inform the QCA’s recommendations for a drought allowance.

In any case, in practice responding to drought is a dynamic process, with our adaptive drought management strategy seeking to flexibly respond to the conditions as they emerge to drive cost efficiency. Ultimately, the aim is to maintain water security while minimising costs to the extent that it is feasible and appropriate.

Each drought is different. While there are likely to be common actions associated with each drought, the full extent of actions is likely to vary. Attempting to predict what the actual drought response strategy will look like not only materially increases complexity but is potentially for no benefit as it is ultimately a search for false

precision. It could also send misleading signals to stakeholders that this is something that we can predict with some certainty and/or that drought triggers some form of 'set and forget' response strategy that remains in place until the region emerges from drought.

Overall, we consider that this simpler, conceptual strategy is clear and transparent for all stakeholders and is appropriate for the purpose of the QCA's recommendations for a drought allowance. Under current policy, this is coupled with an end of period true-up to ensure that we do not under- or over-recover our prudent and efficient drought costs via the Review Event mechanism. An adjustment is also required for the revenue impact of differences between actual and forecast demand, as discussed further below.

For the purpose of proposing our drought allowance costs, the conceptual strategy assumes that drought has been declared from 1 July 2022 (i.e. the start of the next regulatory period) and continues for the duration of the regulatory period. For the profile of the four year regulatory period, this assumes:

- full recommissioning of the WCRWS, noting this is a decision of Government, which will take the first two years and eight months of the period to implement;
- once it is recommissioned, full operation of the WCWRS until the end of the four year period; and
- maximised operation of the GCDP for the four year period (up to 119 ML per day on average).

We have also not otherwise assumed any changes in the production mix across the SEQ Water Grid.

The other key principle underpinning this approach is that the need to operate these facilities during drought – and the potential costs of that operation – is known with more certainty. There are other drought response costs that are more uncertain. We have not sought to include these costs in the drought allowance costs. Any such costs can be addressed at the end of the regulatory period under the Review Event mechanism.

Having regard to the principles, a summary of the rationale for the costs we are proposing to include in the drought allowance costs based on our assumed conceptual drought strategy is provided below.

**Table 4      Summary of approach to estimating our drought allowance costs**

Principle	Response
Scope: limited to material costs of drought	The costs of the full recommissioning and operation of the WCRWS, and up to full operation of the GCDP, are material.
Incremental costs of drought	<p>Our proposed drought allowance costs only includes the incremental costs of the full recommissioning and operation of the WCRWS, and up to full operation of the GCDP, which can be expected to be incurred while the SEQ Water Grid is in drought operating conditions.</p> <p>We have deducted any capital and operating expenditure that we have forecast to incur for each facility in our normal operating conditions. For example, for the WCRWS, this includes the costs of operating the Luggage Point AWTP in low flow care and maintenance mode, as described above. This assumes that the QCA recommends that these costs can be recovered via our bulk water price under normal operating conditions.</p> <p>Any residual expenditure that we actually incur in responding to drought can be captured as a proposed Review Event claim at the end of the 2023-26 regulatory period. This can also be used to address any over-recovery of costs in the unlikely event this occurs.</p>
Transparency	The rationale for the costs we are assuming we will incur for the purpose of the drought allowance is fully transparent, with the assumed deployment of our manufactured water assets clearly specified as a drought response strategy under the WSP2017 (once SEQ Water Grid storage levels fall below 60%).

Principle	Response
	We have been transparent in detailing our forecast drought allowance costs, including demonstrating that we have not double counted these costs in our normal operating conditions forecast.
Simplicity over complexity	As outlined above, we have proposed a comparatively clear and simple approach based on a conceptual drought strategy. A more complex drought profile could be developed however would be dependent on assumptions that may or may not be realised – the costs of this complexity is likely to outweigh any benefit.
Certainty	The full recommissioning and operation of the WCRWS and operation of the GCDP once drought triggers are met is a known and planned drought response strategy under the Water Security Program. The costs of this can also be forecast with comparatively more certainty, even though they remain estimates. We are therefore only proposing to include these ‘more certain’ costs within the scope of the drought allowance.  In practice, our total actual costs – including the costs of other drought response initiatives - will vary depending on the timing, severity and duration of drought, with our adaptive drought management strategy aimed to minimising costs where we can. The difference between our final actual drought response costs and the estimated costs reflected in the drought allowance (if levied) can be addressed via the Review Event.

#### 4.5.2.3 Proposed drought response costs

Based on the above, our proposed drought response costs for the purpose of the drought allowance for the 2023-26 regulatory period are presented below.

**Table 5** Proposed drought allowance costs (\$M, nominal)

	Year 1	Year 2	Year 3	Year 4	Total
<b>Operating costs - manufactured water</b>	64	65	81	89	<b>299</b>
<b>Operating costs - Seqwater costs</b>	2	2	2	-	<b>7</b>
<b>Capital charge - WCRWS recommissioning</b>			3	7	<b>10</b>
<b>Total incremental drought costs</b>	<b>66</b>	<b>68</b>	<b>86</b>	<b>96</b>	<b>316</b>

#### 4.5.3 Summary: proposed drought allowance costs and foregone revenue

##### 4.5.3.1 Total proposed allowance costs and revenues

Based on the above, our total proposed drought allowance costs and revenues for the 2023-26 regulatory period are summarised below.

**Table 6** Total proposed drought allowance costs and foregone revenue (\$M, nominal)

	Year 1	Year 2	Year 3	Year 4	Total
<b>Revenue impact - shortfall</b>	60	74	91	110	<b>333</b>
<b>Incremental operating costs</b>	66	68	83	89	<b>306</b>
<b>Incremental capital charge</b>			3	7	<b>10</b>
<b>Incremental revenue offset (power stations and TRC)</b>	-10	-10	-10	-10	<b>-40</b>
<b>Net Drought Costs</b>	<b>116</b>	<b>131</b>	<b>167</b>	<b>196</b>	<b>609</b>

#### 4.5.3.2 End of period adjustments

As noted above, existing regulatory mechanisms can be used to ensure that we do not under- or over-recover the financial impacts of drought. The two key mechanisms are:

- The existing drought Review Event, which can be used to address any residual under- or over-recovery of our drought response costs at the end of the 2023-26 regulatory period (see below for examples of these costs).
- An end of period true-up for the revenue impacts of the difference between actual and forecast demand during the period (which is not limited to drought).

As outlined in our bulk water price submission, while the second adjustment has been made in the past, including for the 2018-22 period (via the Price Path Debt), we do not know if this will be the case at the end of the current regulatory period.

We have therefore requested the QCA to make a recommendation to the Minister to allow certain key risks to be addressed via an end of period true-up. This includes any under- or over-recovery of revenue that will be primarily driven by differences between actual and forecast volumes, including in the event of drought (other than any foregone revenue we have been able to recover if the drought allowance is applied). Reference is made to section 10.4 of our bulk water price submission for further information.

#### 4.5.3.3 Summary of mechanisms to recover our drought-related costs

To summarise, there are three main mechanisms that can potentially be used to recover our drought-related costs. These are summarised below.

**Table 7** Summary of mechanisms to recover drought-related costs

Mechanism	Purpose	Types of costs addressed under each mechanism
Bulk water prices: normal operating conditions	To recover drought-related costs incurred as part of our 'business as usual' drought management activities in maintaining water security	<ul style="list-style-type: none"> <li>• Resourcing for proactive drought management (refer bulk water price submission, section 6.3.3.2)</li> <li>• WCRWS: Luggage Point AWTP low flow care and maintenance mode (refer section 4.3.3)</li> </ul>
Drought allowance: drought conditions	An incremental allowance in addition to	<ul style="list-style-type: none"> <li>• Full recommissioning of the WCRWS, noting this is a decision of Government</li> </ul>

Mechanism	Purpose	Types of costs addressed under each mechanism
	the bulk water price, to enable us to recover additional revenue towards the recovery of our prudent and efficient drought response costs	<ul style="list-style-type: none"> <li>• Full operation of the WCRWS</li> <li>• Full operation of the GCDP</li> </ul> <p>This is based on a 'conceptual' strategy that assumes that the region is in drought conditions for the entire four years of the regulatory period, allowing for a 2 year 8 month recommissioning timeframe for the WCRWS before full operations can be reached. This will exclude the proposed step change for Luggage Point AWTP costs to the extent that this is recommended by the QCA for recovery via the bulk water price in normal operating conditions.</p> <p>The allowance also allows for recovery of foregone revenue under drought conditions.</p>
Review Event	An end of period true-up that adjusts for the difference between: (1) any forecast drought response costs for which we have recovered revenue via the bulk water charge and drought allowance; and (2) our actual prudent and efficient drought response costs during the period. This can be used to address any under- or over-recovery of these costs.	<p>The actual costs we incur in responding to drought will vary depending on the severity, timing and duration of a drought. In the first instance if a drought allowance has been levied during the period the Review Event can adjust for any differences between the forecast and actual costs that were within the scope of that allowance (as set out above).</p> <p>Other examples of the types of costs we could incur include:</p> <ul style="list-style-type: none"> <li>• water carting to off-grid communities</li> <li>• studies to understand localised drought risk/infrastructure limitations and opportunities</li> <li>• studies to mitigate drought risk/strategy/concept design</li> <li>• detailed design</li> <li>• drought infrastructure (small and large scale) - small scale infrastructure may range from fill stations, adjustments to existing infrastructure up to large contingency supplies</li> <li>• media campaigns to support demand management</li> <li>• community engagement to support demand management/infrastructure (e.g. shower timers/presence at Ekka etc)</li> <li>• rebates for demand management</li> <li>• assessment/investigations/development of tools or guidelines to support demand management</li> </ul>

Mechanism	Purpose	Types of costs addressed under each mechanism
		<ul style="list-style-type: none"><li>• resourcing to respond to support drought management efforts and stakeholder and community engagement/support</li><li>• costs to support improved monitoring of dwindling supplies</li><li>• variable pumping costs (this depends on where drought is more prevalent, which is influenced by local rainfall conditions).</li></ul> <p>As part of any Review Event claim we will be required to demonstrate that the proposed costs that are the subject of that claim have not otherwise been compensated via the bulk water price or the drought allowance.</p>