frontier economics

Expert report on QCA treatment of Drought Review Event Costs

A report to Seqwater January 2022

Disclaimer

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Executive Summary

Purpose of this report

The purpose of this report is to assess the proposed and possible alternative approaches to the recovery of these drought response and related costs under the review event mechanism in the regulatory framework overseen by the Queensland Competition Authority (QCA), and to recommend a way forward for the interpretation and application of this mechanism in both the short and longer term.

Contextual background

The Queensland Government sets the price for Seqwater's bulk water prices, but directs the Queensland Competition Authority (QCA) to investigate the pricing practices through periodic reviews relating to Seqwater's bulk water monopoly business activity. The QCA has recently released its draft decision for the regulatory period 2022-26.

The referral notice for the current review requests that the QCA recommend prices for the regulatory period that allow Seqwater sufficient revenue to recover the prudent and efficient costs of providing bulk water services and to repay 'price path debt' by 2027–28 under 'normal operating conditions'.

However, in recognition that a regulated business, like other businesses, can be exposed to risks beyond its control, Seqwater's current regulatory framework includes a review mechanism that captures unanticipated costs (or savings) from certain 'Review Events'. It then includes the incremental efficient costs (or savings) associated with these review events as an adjustment to the Price Path Debt mechanism at the next review period.

One of these review events is a 'drought response event'. The ministerial referral for the 2018 price review provided for the QCA to review the efficiency of any additional costs for drought response, where these occur in accordance with the Water Security Program and the costs are material.

During the current regulatory period water storages fell significantly. As both the 'drought readiness' and 'drought response' triggers were reached during the regulatory period, Seqwater submitted a claim for a drought response review event as part of its submission totalling $72.3M of operating expenditure. This is the first time such a claim has been made and has needed to be assessed.

In this sense the regulatory framework for the drought review event mechanism is being defined in this review. The QCA has in effect proposed two alternative approaches:

- A 'narrow definition' approach which interprets the words "cost of drought response" as pertaining only to actions explicitly documented in the Water Security Program (WSP) as relating to the specific trigger called 'drought response' in the WSP.
- A 'broader definition' or more holistic approach which focuses on assessing the prudency and efficiency of the costs incurred by Seqwater in preparing for and proactively managing drought on behalf of SEQ at both the readiness and drought response stages (as reflected in its review event claim).

Assessment of the two alternative approaches

In order to assess the merits of the two approaches we identified a number of well-accepted principles of economic regulation:

- **Cost recovery**: The regulated entity should have a reasonable opportunity to be able to recover the prudent and efficient costs of providing its services whilst complying with its legal and regulatory obligations. Prudency should be assessed as at the time the investment or expenditure decision is made.
- **Customer bills**: prices should not enable the business to recover inefficient or excessive costs or costs which are not incurred prudently.
- **Incentives and risk allocation**: The pricing framework should provide incentives for businesses to deliver services efficiently in the long-term interests of customers, and should not provide inappropriate incentives. There should also be an appropriate allocation of risk between the regulated business and its customers.
- **Certainty**: there should be clarity as to what costs will be allowed to be recovered and the process for determining this, and should not be arbitrary changes in regulatory decision-making unless there is valid reason.
- **Congruence**: The regulatory frameworks should be internally consistent and should also form a logical part of the Government's broader policy context.

These principles are widely accepted in regulatory circles and many are embodied in the formal legislative framework governing the QCA's regulatory functions.

On the basis of our assessment of the two possible approaches to interpreting and applying the drought response review mechanism proposed by the QCA in its draft report, only the second is consistent with widely accepted principles for sound economic regulation and with the broader regulatory and policy framework.

Table 1 Summary assessment of alternative approaches against key regulatory principles

Key principle	Approach 1: Narrow interpretation	Approach 2: Broader interpretation
Cost recovery	Does not provide opportunity for recovery of prudent and efficient costs incurred under 'readiness' trigger	Provides opportunity for recovery of prudent and efficient costs incurred under 'readiness' trigger, subject to prudency and efficiency review
Efficient costs only	Incorporates robust prudency and efficiency review of claimed costs	Incorporates robust prudency and efficiency review of claimed costs
Incentives and risk allocation	May discourage Seqwater from prudent drought readiness actions in the interests of customers and the broader SEQ community	Does not discourage Seqwater from undertaking prudent drought readiness actions in the interests of customers and the broader SEQ community
Certainty	Leads to lack of clarity on future cost recovery which could adversely impact Seqwater drought readiness actions and delay essential response actions	Would provide greater clarity on future cost recovery so will not adversely impact Seqwater drought readiness actions and will enable drought response actions to occur when they need to.
Congruence	Not consistent with holistic view of WSP or with specific definitions in WSP guidelines which indicate policy intent	Consistent with holistic view of WSP and with specific definitions in WSP guidelines which indicate policy intent

As can be seen from the table, key concerns with the 'narrow' interpretation approach include:

- The apparent lack of any regulatory mechanism to enable Seqwater to recover any prudent and efficient costs it incurs in drought readiness is clearly inconsistent with the fundamental principle that a regulated entity should have a reasonable opportunity to be able to recover the prudent and efficient costs of providing its services whilst complying with its legal and regulatory obligations.
- While the drought response trigger is clearly an important element of the current WSP, constraining the scope of the drought response review event mechanism to only pre-specified actions explicitly listed under this trigger in the WSP has the potential to provide perverse incentives to Seqwater to manage water security and drought effectively in the public interest.
- The fact that the potential differing interpretations of the review event definitions are arising during the course of this price review is in itself evidence that there is a lack of clarity over this important mechanism in the regulatory framework. This lack of clarity has the potential to adversely affect Seqwater's ability to make prudent decisions when preparing for possible drought or responding to drought.

- the 'narrow interpretation' is at least questionable based on the way the term 'drought response' is used in several versions of the WSP guidelines and in the WSP itself as a broader concept encompassing both 'drought readiness' and 'drought response' actions.

Both Atkins and QCA under their application of the 'narrow interpretation' approach place considerable store on subjecting the review event claim to a stringent prudency and efficiency assessment. Thus this approach can be seen as fully consistent with ensuring customer bills do not reflect monopoly profit or inefficiency.

However, a prudency and efficiency review of expenditure is also fundamental to the 'broader interpretation' approach – there is no suggestion that drought readiness or drought response costs should be simply passed on to customers without rigorous independent scrutiny.

Both the 'narrow' and 'broad' approaches to defining the drought review mechanism are therefore consistent with this key economic regulatory principle.

The way forward

On the basis of our assessment of the alternative approaches, we have proposed a way forward for both interpretation and application of the drought response review event mechanism for the purposes of assessing Seqwater's current review event claim; and for clarifications to the mechanism for the future.

In relation to the interpretation and application of the drought response review mechanism for the purposes of the current review event claim, there is a strong case for adopting the second approach proposed by QCA in its draft report:

- Under this approach there would be an opportunity to consider all drought readiness and drought response actions and associated expenditure in assessing the claim, rather than for some element to be ruled out altogether as would occur under the first 'narrow' interpretation underpinning QCA's proposed framework set out in the QCA's draft report. As the QCA proposes, this would entail a rigorous review of the prudency and efficiency of all of the cost items in the claim.
- Consistent with regulatory best practice the prudency and efficiency review of Seqwater's claim should take the perspective of whether the decisions were prudent and efficient given the state of knowledge and other circumstances which existed at the time these decisions were made, not with the benefit of hindsight.

In relation to the longer-term framework, the assessment of the current claim has highlighted the need for great clarity on how the review mechanism should be interpreted and applied if such claims arise again in the future:

- In our view it would make sense to align the definition of 'drought response' for the purposes of the review event mechanism with the definition of 'drought response action' in the latest (2021) version of the WSP guidelines issued by the Department. That said, we support the QCA's proposed exclusion of costs already recovered under the drought allowance to avoid 'double dipping', consistent with the principle that customers should pay no more than the efficient costs of supply.
- In addition, it would be useful to more clearly specify in advance how the prudency and efficiency assessment will be undertaken in future if required to assess a review event claim and what information /evidence the QCA will require in order to facilitate such an assessment

Introduction

1.1 Purpose and scope of this report

Frontier Economics has been engaged by Seqwater to provide an expert report on the recovery of costs associated with drought response and related costs.

In particular, the purpose of this report is to assess the proposed and possible alternative approaches to the recovery of these costs under the review event mechanism in the regulatory framework overseen by the QCA, drawing on best practice principles of economic regulation.

1.2 Contextual background

1.2.1 Seqwater's water supply and security role

Seqwater provides bulk treated water to the SEQ service providers responsible for distributing and retailing the treated water supply to residential and non-residential water users in their supply areas. It plays a key role in ensuring water security for the SEQ region.

In undertaking this role, Seqwater is required under the Water Act to develop a water security program in accordance with various content and process obligations (see Attachment). The purpose of the water security program is to outline how the achievement of the LOS objectives will be facilitated through the arrangements, strategies and measures that Seqwater has in place.

An important part of the WSP relates to preparing for, and managing, drought. The 2017 WSP provides for both 'drought readiness' and 'drought response' actions to be undertaken at specified triggers.[1] The WSP is however designed to be a plan which provides for an adaptive response to drought reflecting emerging events and the particular features of a potential or realised drought.

1.2.2 QCA price review and the drought response review mechanism

As discussed in more detail in section 3, the Queensland Government sets the price for Seqwater's bulk water prices, but directs the Queensland Competition Authority (QCA) to investigate the pricing practices through periodic reviews relating to Seqwater's bulk water monopoly business activity. The QCA has recently released its draft decision for the regulatory period 2022-26.

One element of the QCA's draft decision relates to its proposed approach to assessment of what is known as a 'drought response review event'. This mechanism provides for ex post recovery of drought response costs which Seqwater may incur in the event it needs to undertake actions and incur expenditure related to drought which are not reflected in the regulated prices for Seqwater's services which are predicated on 'normal operating conditions'.

[1] In the 2017 WSP the trigger for taking drought readiness measures is when dam levels drop to 70 per cent, and the trigger for taking drought response measures is when dam levels drop to 60 per cent), noting that these storage level trigger levels could change in future WSPs.

During the current regulatory period water storages fell significantly. As both the 'drought readiness' and 'drought response' triggers were reached during the regulatory period, Seqwater submitted a claim for a drought response review event as part of its submission totalling $72.3M of operating expenditure.

The QCA's Draft Report provides for recovery of only some of the costs incurred by Seqwater and claimed for recovery as a review event.

One key reason for this is that the QCA's proposed framework is based on a narrow definition of the scope of the review mechanism which limits it only to actions explicitly documented in the WSP as relating to the specific trigger called 'drought response" in the WSP.

However, the QCA's draft decision also flags that the QCA is open to a 'broader definition' or more holistic approach which focuses on assessing the prudency and efficiency of the costs incurred by Seqwater in preparing for and proactively managing drought on behalf of SEQ at both the readiness and drought response stages (as reflected in its review event claim).

1.3 Structure of this report

The remainder of this report is structured as follows:

- Section 2 outlines key principles of economic regulation and how these should apply in the context of preparing for and managing drought
- Section 3 describes the current regulatory framework and in particular the proposed approach to the drought response review event mechanism in the QCA's draft report
- Section 4 examines the extent to which the two alternative approaches to implementing the drought response review event mechanism identified in the QCA's draft report are consistent with these principles of sound economic regulation
- Section 5 proposes a way forward in both the short and longer term on the basis of this assessment.

2 Key regulatory principles

Before examining the current approach to the economic regulatory treatment of drought response and related costs it is instructive to firstly set out some key principles of best practice economic regulation against which the current and possible alternative approaches can be assessed.

Economic regulation aims to promote effective competition where this is possible, and to reproduce the disciplines otherwise provided by competition, where it is not feasible to introduce competition. In particular, economic regulation seeks to ensure that monopoly businesses do not earn monopoly profits or provide sub-standard services, but does enable them to cover the efficient costs of operating and maintaining the network assets. It is widely accepted that this translates into regulatory objectives to protect the long-term interests of customers through promoting efficient investment in and operation of, network assets.

In order to achieve this objective, a number of well-established principles which should underpin a good economic framework for regulating prices include:

- **Cost recovery**: The regulated entity should have a reasonable opportunity to be able to recover the prudent and efficient costs of providing its services whilst complying with its legal and regulatory obligations. Prudency should be assessed as at the time the investment or expenditure decision is made.
- **Customer bills**: prices should not enable the business to recover inefficient or excessive costs or costs which are not incurred prudently.
- **Incentives and risk allocation**: The pricing framework should provide incentives for businesses to deliver services efficiently in the long-term interests of customers, and should not provide inappropriate incentives. There should also be an appropriate allocation of risk between the regulated business and its customers.
- **Certainty**: there should be clarity as to what costs will be allowed to be recovered and the process for determining this, and should not be arbitrary changes in regulatory decision-making unless there is valid reason.
- **Congruence**: The regulatory frameworks should be internally consistent and should also form a logical part of the Government's broader policy context.

These principles are widely accepted in regulatory circles. In its 2018 final report, for example, the QCA observed that its approach was to "recommend prices that reflect the terms of the referral and its assessment of the prudent and efficient costs that Seqwater requires to provide bulk water supply services, and meet its legislative and regulatory obligations".

We would also note that many of the above principles are embodied in the formal legislative framework governing the QCA's regulatory functions. For example, in conducting an investigation under the QCA Act, matters to which the QCA must have regard include:

- the protection of consumers from abuses of monopoly power
- the cost of providing the goods or services in an efficient way, having regard to relevant interstate and international benchmarks;

- the actual cost of providing the goods or services[2].

Applying these principles to the issues of drought readiness and response activities and costs would imply:

- The framework should provide an opportunity for Seqwater to recover its prudent and efficient costs of providing its water and water security services in all of its operating modes (i.e. 'normal operating conditions, 'drought readiness' and 'drought response').
- The arrangements should provide incentives for Seqwater to deliver it services as efficiently and prudently as possible.
- Seqwater should have to demonstrate the prudency and efficiency of drought readiness and response costs before these are allowed to be recovered in regulated prices.
- The framework should not allow for 'double dipping' so that these cost are recovered only under one mechanism.
- In assessing the prudency and efficiency of costs associated with planning, preparing, and managing drought, this should be based on the state of knowledge at the time the decision was made (i.e. under conditions of uncertainty).
- There should be clarity as to how the costs associated with drought readiness and response will be treated in advance of Seqwater having to make decisions on these actions including how the prudency and efficiency of these costs will be assessed.
- The approach should also provide incentives consistent with prudent management of risks including those associated with urban water security: as a corollary it should also facilitate the adoption of best practice principles for urban water security (e.g. adaptive management).
- The framework should be congruent with other government policy setting and should also be internally consistent.

[2] Section 26 Queensland Competition Authority Act 1997

3 Current regulatory approach

3.1 Current regulatory approach to drought response costs

The Queensland Government sets the price for Seqwater's bulk water prices, but directs the Queensland Competition Authority (QCA) to investigate the pricing practices through periodic reviews relating to Seqwater's bulk water monopoly business activity.[3]

The referral notice for the current review requests that the QCA recommend prices for the regulatory period that allow Seqwater sufficient revenue to recover the prudent and efficient costs of providing bulk water services and to repay 'price path debt[4]' by 2027–28 under 'normal operating conditions'.

However, in recognition that a regulated business, like other businesses, can be exposed to risks beyond its control, which may have a material impact on its costs, Seqwater's current regulatory framework includes a review mechanism that captures unanticipated costs (or savings) from certain 'Review Events'. It then includes the incremental efficient costs (or savings) associated with these review events as an adjustment to the Price Path Debt mechanism at the next review period.

One of these review events is a 'drought response event'[5]. The ministerial referral for the 2018 price review provided for the QCA to review the efficiency of any additional costs for drought response, where these occur in accordance with the Water Security Program and the costs are material. We note, however, that this referral did not provide a precise definition of 'drought response'.

In its March 2018 report, the QCA accepted Seqwater's proposal to amend the review event framework to include drought response events as reasonable, "particularly given that droughts are unpredictable and the impact on costs is uncertain". In particular, it recommended that (Recommendation 3 in QCA 2018 Final Report):

> *Where Seqwater can demonstrate a change in prudent and efficient costs as a result of taking drought response measures in accordance with the Water Security Program, Seqwater should be able to recover these drought response costs as follows:*
>
> *(a) Where the impact is material, drought response costs should be recouped through a price adjustment during the three-year regulatory period.*

3 Section 23 of the *Queensland Competition Authority Act 1997*

4 The Price Path debt mechanism is an 'unders/overs' account which records the cumulative amount of Maximum Allowable Revenue (MAR) set by the Queensland Competition Authority (QCA) that Seqwater has either under/over-recovered in historical years. In each regulatory period, Seqwater is permitted to recoup some of the 'principal' in the Price Path Debt, plus interest, in addition to the MAR for that regulatory period.

5 Other review Events include emergency events (where Seqwater is not at fault), law or government policy events, and unmanageable feedwater quality events.

> *(b) Where the impact is not material, drought response costs should be recouped through an end-of-period adjustment*[6].

During the current regulatory period water storages fell significantly. As both the 'drought readiness;' and 'drought response' triggers were reached during the regulatory period, Seqwater submitted a claim for a drought response review event as part of its submission totalling $72.3M of operating expenditure.

The claim covered a number of items (encompassing actions taken under both 'drought readiness' and 'drought response') including:

- Demand reduction activities
- Responding to sub-regional droughts which occurred independently to overall water grid storage levels. These events included supplying potable water to drought impacted off-grid communities through water carting (e.g. Canungra and Dayboro) and were such as the northern drought that triggered local dam protection levels and the requirement for localised contingency supply planning.
- Recommissioning small portions of the Western Corridor Water Scheme to supply PRW to industry and activities to support potential further recommissioning.
- Operational activities such as activities to support maximising the production of the Gold Coast Desalination Plant and pumping water north through Southern Regional Water Pipeline to direct water to where it was needed most and reduced demand from the central storages, particularly Wivenhoe Dam.
- Drought Response Team resourcing.

The major cost items related to Seqwater's two manufactured water assets—the Gold Coast Desalination Plant and the Western Corridor Recycled Water Scheme.

As this is the first such claim for a drought response review event, this is the first time this element of the review framework has been tested to see how the QCA would apply it in practice.

Under the ministerial referral the QCA was also asked to recommend a future approach to review events.

For the next regulatory period, the regulatory framework will also provide for a drought allowance to apply when Seqwater is operating under 'drought operating conditions'. In contrast to the review event mechanism, the referral clearly defines the drought allowance as applying only when the 'drought response trigger' specified in the 2017 WSP (i.e. 60% water grid storage) is reached.

3.2 QCA/Atkins interpretation in Draft report

As this is the first claim for a drought response review event, this is the first time this element of the review framework has been tested to see how the QCA would apply it in practice.

[6] Queensland Competition Authority, *Final Report Seqwater Bulk Water Price Review 2018–21*, March 2018, p. 81

3.2.1 Atkins report

The QCA engaged Atkins to undertake a review of Seqwater's expenditure, including claims made under the drought response review event mechanism.

In its draft report, Atkins noted that the Water Security Program envisages that recommissioning of the Western Corridor Recycled Water Scheme (WCRWS) should start at 60% storage in order to be fully operational by the time 40% water grid storage is reached. It further observed that Seqwater carried out a number of activities in advance of the triggers set out in the Water Security Program and stated that it adopted the follow principles:

- Where costs would have been incurred anyway, simply at a later date, Atkins recommended including them in the drought review event. This is because they have been proven to be required, and it would have supported them at the later date. Atkins made adjustments to shift this expenditure to the financial year in which it considered it should have been incurred (but noted that this should not be interpreted as support for the prudency of carrying out activities ahead of the WSP triggers). Atkins explicitly stated that had the drought broken and/or the trigger for the activity not subsequently been met, it would not have recommended allowing this expenditure in the drought review event.
- Where carrying out an activity in advance of the WSP trigger means that operating expenditure has been incurred for longer (e.g. earlier operation of the WCRWS) Atkins recommended only allowing the additional operating expenditure from the period when the trigger was first met[7].

In essence, Atkins has interpreted the drought response review event as applying only when the drought response trigger is reached. The implication is that costs incurred from actions undertaken during the drought readiness stage are excluded (or only allowed for because the drought response trigger was subsequently reached and from the time of the drought response trigger being reached).

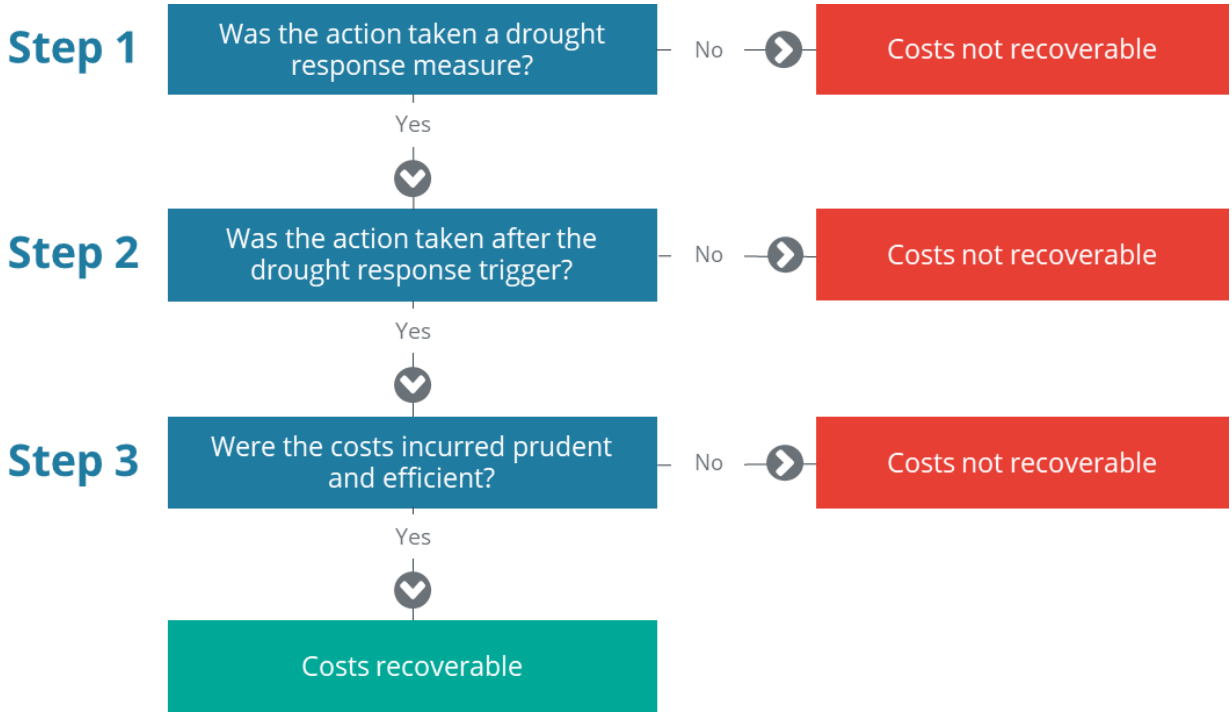
The net impact of the Atkins approach was to disallow some $17.3 m of Seqwater's claimed expenditure under this mechanism.

3.2.2 QCA draft decision

In its draft report the QCA set out its approach to assessing Seqwater's claim for expenditure under the drought response review event mechanism as shown in **Figure 1** below.

[7] Atkins, *Review of expenditures and demand for the investigation of Seqwater's bulk water prices for 2022–26, Draft Report, Queensland Competition Authority*, 25 November 2021, p.63

Figure 1: QCA's Assessment approach – drought response review event



Source: Reproduced from QCA (2021), Seqwater Bulk water Price Review Draft Report, November 2021, p. 89

The following discussion outlines how the QCA applied each of these steps in their assessment.

Step 1—Was the action taken a drought response measure?

The QCA adopted the same interpretation as Atkins of the term 'drought response review event' to mean that only costs associated with actions listed in the 2017 WSP under the drought response trigger qualify for potential inclusion under the mechanism, and that actions undertaken as part of 'drought readiness' do not. The QCA suggested that statements in the WSP clearly distinguish between the drought response phase and other phases, including drought readiness.

Given its position that "costs must be drought response measures according to the WSP to satisfy the review event definition", the QCA's draft position is to exclude $3.2 million from Seqwater's review event claim on this basis that the drought readiness costs are not associated with taking drought response measures.

As discussed further below, while this narrow interpretation is understandable given the general wording in the original referral, in our view this interpretation is incompatible with the well-established principles for sound economic regulation and the broader QCA legislative framework.

Step 2—Was action taken after the drought response trigger?

The QCA then assessed whether the drought response measures were undertaken before or after the 2017 WSP drought response trigger (60% water grid storage) had been reached. It found, as per Atkins, that Seqwater undertook some actions ahead of this trigger.

Unlike Atkins, however, who allowed such costs (discounted to the future point of time) on the basis that these costs would have been incurred anyway once the trigger was reached (which it was), QCA 's draft position is to disallow these costs completely. This is because the QCA

considered that "the review event test is whether Seqwater took the drought response measure in accordance with the WSP, not whether the measure would have been taken in accordance with the program if it had been taken when the trigger was eventually met".

The effect of this position is to disallow a further $9.0 million from Seqwater's review event claim.

Again, and as discussed further below, while this narrow interpretation is understandable given the general wording in the original referral, in our view this interpretation is incompatible with the well-established principles for sound economic regulation.

Step 3—Were the costs incurred prudent and efficient?

The QCA's final step was to assess the prudency and efficiency of the costs incurred as a result of taking the drought response measures.

The QCA found that based on information received to date, it was unable to form a view on the overall efficiency of Seqwater's proposed costs and would require further information from Seqwater and would need to undertake further review of the prudent and efficiency of these costs before reaching a final position.

3.3 Two alternative approaches proposed by QCA

Notwithstanding the QCA's assessment framework and its discussion of its application as outlined above, the QCA concluded its analysis (p.93) by indicating it would be open to allowing Seqwater to recover costs that do not meet [the QCA's interpretation of] the review event definition, but only if Seqwater can justify the costs were prudently and efficiently incurred to prepare for drought. As discussed further in section 4.2 below, this proposal, whilst at variance from the QCA's own framework, appears to recognise that in some cases it may be prudent and in the public interest to incur costs earlier than the drought response trigger and that no water planning document can precisely determine the optimal approach to prepare for and respond to drought, as the optimal approach is likely to reflect the relevant circumstances. The QCA also noted that Seqwater may not have been adequately compensated for drought readiness costs through the current operating expenditure allowance. The QCA sought feedback on whether the review event definition should be revised to ensure that Seqwater acts prudently and in the public interest in relation to drought or other operational events.

In this sense the regulatory framework for the drought review event mechanism is being defined in this review. The QCA has in effect proposed two alternative approaches:

- A 'narrow definition' approach which interprets the words "cost of drought response" as pertaining only to actions explicitly documented in the WSP as relating to the specific trigger called 'drought response" in the WSP
- A 'broader definition' or more holistic approach which focuses on assessing the prudency and efficiency of the costs incurred by Seqwater in preparing for and proactively managing drought on behalf of SEQ at both the readiness and drought response stages (as reflected in its review event claim).

In our view (for the reasons discussed further in section 4.2 below), the latter approach would be more appropriate and more consistent with the principles of economic regulation.

4 Assessment

4.1 Introduction

This section examines the extent to which the two alternative approaches to implementing the drought response review event mechanism identified in the QCA's draft report (i.e. the 'narrow' or 'broader' interpretations of 'drought response') are consistent with well-accepted principles of sound economic regulation as set out in section 2, namely:

- Cost recovery of prudent and efficient costs
- Prices should reflect prudent and efficient costs only
- Incentives for prudent and effect operation and risk management
- Certainty/clarity
- Congruence

4.2 Assessment against key regulatory principles

4.2.1 Cost recovery of prudent and efficient costs

Key principle/s:

The regulated entity should have a reasonable opportunity to be able to recover the prudent and efficient costs of providing its services whilst complying with its legal and regulatory obligations.

Prudency and efficiency' should be assessed as at the time the investment or expenditure decision is made.

Application to drought response

The framework should provide an opportunity for Seqwater to recover its prudent and efficient costs of providing its water and water security services in all of its operating modes (i.e. 'normal operating conditions, 'drought readiness' and 'drought response').

In assessing the prudency and efficiency of costs associated with planning, preparing, and managing drought, this should be based on the state of knowledge at the time the decision was made (i.e. under conditions of uncertainty).

Assessment

As is recognised by Atkins and the QCA, and reflected in the 'triangle' shown in the 2017 WSP, there are a number of different modes or circumstances under which Seqwater operates, depending on storage levels at the time. These can be broadly described as:

1. Normal operating conditions (broadly corresponding to when storages are above 70%).
2. Drought readiness (broadly corresponding to when storages are between 60% and 70%).
3. Drought response (when storages are below 60%).

While these modes reflect triggers levels specified in the 2017 WSP for taking drought readiness measures when dam levels drop to 70 per cent, and for taking drought response measures when

dam levels drop to 60 per cent), it is important to note that these storage level trigger levels could change in future WSPs. It is also important to note that while these triggers relate to aggregate storage levels across the SEQ Water Grid, some droughts may affect only one or more sub-regions and given constraints on the ability to move water, may necessitate location-specific drought response actions.

The regulated prices set out in QCA decisions are predicated on 'normal operating conditions', and so are independent of the approach adopted to drought response review events. The regulatory framework (if the costs under normal operating conditions are appropriately assessed) clearly provides an avenue for Seqwater to recover its prudent and efficient cost associated with supplying services under these conditions.

Similarly, the 'narrow' interpretation of drought response review event clearly provides an avenue for Seqwater to recover prudent and efficient costs which are unambiguously associated with actions beyond the drought response trigger being reached explicitly identified in the WSP. And looking forward, the drought allowance established for the next regulatory period should provide an opportunity for Seqwater to recover such costs closer to the time they are incurred.

However, the 'narrow' interpretation approach would not seem to provide Seqwater an opportunity to recover the prudent and efficient cost it incurs in the 'drought readiness' stage via the review event mechanism.

This begs the question as to where in the regulatory framework such 'drought readiness' costs would be able to be recovered. Given that 'drought readiness' involves costs not incurred as business as usual or 'normal operating conditions', the answer would appear to be 'nowhere'.

The narrow' interpretation approach is therefore fundamentally inconsistent with principle (1) above, as legitimate costs incurred under these conditions would fall between the cracks (i.e. is not reflected in BAU costs or in costs which Seqwater can recoup under the Review event adjustment under QCA's interpretation (or in future under the drought pricing provision). QCA appears to recognise this gap in the regulatory framework when they acknowledge that "Seqwater may not have been adequately compensated for drought readiness costs through the current opex allowance[8]".

The apparent lack of any regulatory mechanism to enable Seqwater to recover any prudent and efficient costs it incurs in drought readiness is clearly inconsistent with the fundamental principle that a regulated entity should have a reasonable opportunity to be able to recover the prudent and efficient costs of providing its services whilst complying with its legal and regulatory obligations.

In contrast, the second approach suggested by the QCA (i.e. interpreting the drought review mechanism as potentially applying to both drought response and drought readiness actions and expenditures), provides an opportunity for Seqwater to recover these costs, provided it can demonstrate to the regulator that these were prudent and efficient. It is therefore an interpretation which is much more consistent with this key regulatory principle and the QCA's stated approach of setting prices which allow a business to recover its prudent and efficient costs.

A second key principle here is that in assessing the prudency and efficiency of costs associated with planning, preparing, and managing drought, should be based on the situation and state of knowledge at the time the decision to take those actions was made, not with the benefit of

[8] QCA (2021), Seqwater Bulk water Price Review Draft Report, November 2021, p.93

hindsight. This approach is adopted by a number of economic regulators. For example, IPART states[9]:

> *The efficiency test examines whether a utility's capital and operating expenditure represents the best and most cost effective way of delivering services to customers…*
>
> *The efficiency test is based on the information available to the utility at the relevant point in time. That is:*
>
> - *for forecast operating and capital expenditure, we assess whether the proposed expenditure is efficient given currently available information*
> - *for historical capital expenditure, we assess whether the actual expenditure was efficient based on the information available to the utility and the circumstances prevailing at the time it incurred the expenditure.*

Adopting this approach to assessing prudency and efficiency is particularly relevant in relation to making drought readiness and response decisions under conditions of uncertainty.

In this regard, Atkins' approach whereby it provided for the (discounted) recovery of drought readiness costs or costs incurred before the 60% drought response trigger was reached only because that trigger was subsequently reached, does not appear to be consistent with this principle.

4.2.2 Prices should reflect prudent and efficient costs only

Key principle/s:

- Prices should not enable the business to recover inefficient or excessive costs or costs which are not incurred prudently.

Application to drought response

- Seqwater should have to demonstrate the prudency and efficiency of drought readiness and response costs before these are allowed to be recovered in regulated prices.
- The framework should not allow for 'double dipping' so that these cost are recovered only under one mechanism.

Assessment

Both Atkins and QCA under their application of the 'narrow interpretation' approach place considerable store on subjecting the review event claim to a stringent prudency and efficiency assessment. Thus this approach can be seen as fully consistent with ensuring customer bills do not reflect monopoly profit or inefficiency.

However, a prudency and efficiency review of expenditure is also fundamental to the 'broader interpretation' approach' – there is no suggestion that drought readiness or drought response costs should be simply passed on to customers without rigorous independent scrutiny.

Both the 'narrow' and 'broad' approaches to defining the drought review mechanism are therefore consistent with this key economic regulatory principle.

[9] IPART, Guidelines for Water Agency Pricing Submissions, Water – Guidelines, 2020, p. 18

We also note the QCA's proposal that in future any costs recovered under the new drought allowance tariff would be excluded from the drought response review event mechanism. This approach would ensure no 'double-dipping' and is therefore consistent with sound regulatory practice.

Under the 'narrow' interpretation, this would leave only 'unanticipated' drought response costs not included in the ex-ante estimate in the drought allowance as potentially eligible for recovery under the review event true-up. Under the second approach the mechanism would also include any prudent and efficient 'drought readiness' costs. While this would mean the true-up would be higher under this second approach, this is consistent with the long-term interests of customers in ensuring that Seqwater is not discouraged from undertaking prudent drought readiness activities to protect water security due to a concern it may not be able to subsequently recover the reasonable costs of doing so.

4.2.3 Incentives for prudent and effect operation and risk management

Key principle/s:

- **Incentives**: The pricing framework should provide incentives for businesses to deliver services efficiently in the long-term interests of customers, and should not provide inappropriate incentives
- **Risk allocation**: There should be an appropriate allocation of risk between the regulated business and its customers.

Application to drought response

- The arrangements should provide incentives consistent with prudent management of risks associated with urban water security and best practice principles for urban water security (e.g. adaptive management)

Assessment

Preparing for and managing drought is a prime responsibility assigned to Seqwater. Ensuring both long-term and short-term water security has major economic and social impacts on the SEQ region.

It is therefore vital that the economic regulatory framework applying to Seqwater supports this water security function by enabling it to recover costs associated with prudent management of water security including effectively preparing for and managing drought.

The assumption underpinning the first 'narrow interpretation' approach to the drought response review event mechanism is that this is achieved through linking the scope of the drought response review event mechanism directly - and only - to the 60% drought response trigger set out in the 2017 WSP. Moreover, only actions specifically identified under this trigger in the 2017 WSP are considered to be eligible for the drought response review event mechanism under this interpretation.

This interpretation is perhaps understandable given the wording of the 2018 ministerial referral which states that "the QCA is to review any additional costs for drought response for efficiency where these occur in accordance with the Water Security Program".

The 'narrow' interpretation adopted by Atkins and the QCA equates the term 'drought response' in the ministerial referral to the trigger of the same name in the WSP. In our view, and as discussed below, this technical interpretation is at least questionable based on the way the term

'drought response' is used in several versions of the WSP guidelines and in the WSP itself as a broader concept encompassing both 'drought readiness' and 'drought response' actions.

However, the key point here is that while the 60% drought response trigger in the 2017 WSP is clearly an important element of the current WSP, constraining the scope of the drought response review event mechanism to only pre-specified actions explicitly listed under this trigger in the WSP has the potential to provide perverse incentives to Seqwater to manage water security and drought effectively in the public interest. This is because:

- The 60% drought response trigger in the 2017 WSP itself is based on certain preparatory activities being undertaken in advance of this trigger (e.g. so that the timeframe between recommissioning assets and their operation to supply water can in fact be achieved)
- This interpretation essentially views the WSP as a mechanistic plan to be implemented automatically regardless of evolving conditions. In contrast, best practice principles for urban water security planning and management increasingly emphasise the need for adaptive management.
- The WSP is not intended to provide an exhaustive list of all conceivable actions which may be taken to prepare for, and respond to, drought.
- While the 60% trigger is an important part of the WSP, it is clearly not the only component of the WSP, including in preparing for and managing drought (i.e. drought readiness is clearly also identified as an important element in the WSP).

In this regard we note that the QCA has acknowledged that:

> *We recognise that no water planning document can precisely determine the optimal approach to prepare for and respond to drought, as the optimal approach is likely to reflect the relevant circumstances*[10].

A key concern with the 'narrow' interpretation of the drought response review event is that it has the potential to unnecessarily constrain or adversely influence an adaptive response to an emerging drought. This could potentially lead to the need for even more severe restrictions or costly investments in the future. The economic and social costs of these actions in a severe drought may be significant and represent many multiples of the cost of taking pre-emptive action.

The QCA also appears to share our concern that an inability to recover drought readiness costs (which occurs under the 'narrow' interpretation) could in principle adversely impact on Seqwater preparing prudently for a potentially emerging drought with potentially adverse consequences for water security in SEQ:

> *Carrying out an activity in advance of the drought response trigger may lead to costs being incurred for longer (e.g. earlier operation of the partially recommissioned recycled water scheme). However, this may not always be imprudent or against the public interest and indeed there may be cases where it is prudent and in the public interest for cost to be incurred earlier.*
>
> *The costs of actions taken in advance of the drought response trigger do not meet the review event definition…*

[10] QCA (2021), *Seqwater Bulk water Price Review Draft Report*, November 2021, p. 93

> *However, it is critical to ensure that in applying the regulatory framework that details such as formal wording of review events determined ex ante do not incentivise Seqwater to not act prudently in the public interest*[11]

The QCA therefore seeks feedback on whether the review event definition should be revised to ensure that Seqwater acts prudently and in the public interest in relation to drought or other operational events.

Clearly, the second 'broad interpretation' approach to the scope of the drought response review event mechanism suggested by the QCA would address these underlying concerns by providing at least an opportunity for the prudency and efficiency of these drought readiness actions and associated costs to be subsequently reviewed and potentially recovered. This would not provide a 'carte blanche' to Seqwater to undertake prudent and efficient drought readiness and response actions, but would at least provide it with some assurance when making such decision at times of urgency that it will have an opportunity to recover the costs if it can later demonstrate the rationale and cost-effectiveness of these actions at the time these decisions were made.

However, as discussed further in section 5.1below we would note that, for the purposes of assessing the review event claims submitted by Seqwater for this price review, this does not require a *change* in the definition of the drought response review event, rather it simply requires an appropriate interpretation of the current wording (i.e. the second approach proposed by the QCA). For the next review, however, we agree that clarification of the scope of the mechanism would be helpful (see section 5.2 for our suggestions).

4.2.4 Certainty/clarity

Key principle/s:

- **Certainty**: should be clarity as to what costs will be allowed to be recovered and the process for determining this, and should not be arbitrary changes in regulatory decision-making unless there is valid reason.

Application to drought response

- There should be clarity as to how the costs associated with drought readiness and response will be treated in advance of Seqwater having to make decisions on these actions including how the prudency and efficiency of these costs will be assessed.

Assessment

The fact that the potential differing interpretations of the review event definitions are arising during the course of this price review is in itself evidence that there is a lack of clarity over this important mechanism in the regulatory framework. In this regard we note that are significantly differing interpretations of how the mechanism should be applied between the QCA and its consultant Atkins, not just between the QCA and Seqwater.

This lack of clarity has the potential to adversely affect Seqwater's ability to make prudent decisions when preparing for possible drought.

As discussed in section 5.2, there is clearly a need for greater clarity on the definition of drought response in the mechanism in future.

[11] QCA (2021), *Seqwater Bulk water Price Review Draft Report*, November 2021, p. 91

4.2.5 Congruence

Key principle/s:

- **Congruence**: The regulatory framework should be internally consistent and should also form a logical part of the Government's broader policy context.

Application to drought response

- The interpretation of and application of the drought response review mechanism should be consistent with the broader policy context and in particular the development and implementation of the WSP.
- The framework should be internally consistent (e.g. the approach on cost allowances should be consistent with that for review events etc).

Assessment

As noted above, in our view, the 'narrow interpretation' is at least questionable based on the way the term 'drought response' is used in several versions of the WSP guidelines and in the WSP itself as a broader concept encompassing both 'drought readiness' and 'drought response' actions.

For example, in the 2015 version of the WSP guidelines the table on p.15 identifies and groups both 'drought preparedness activities' and 'drought response' triggers under a common overall heading of 'drought response' as part of the required content of the WSP[12].

Notably, the latest version (2021) of the guidelines issued by the Department of Regional Development, Manufacturing and Water provides a definition of a 'drought response action' as follows:

> *Drought response action includes any measure, arrangement or strategy taken to prepare for, or respond to, drought that is triggered at or below the drought readiness level[13].*

It further notes that only key drought response actions that are considered to individually have a significant impact on water security, should be noted in the Water Security Program. Examples of additional activities that may be undertaken that might not be specified in the Water Security Program include studies, investigations and planning to support the delivery of drought response actions; and bringing forward actions that are prudent and efficient, including infrastructure, that are within the current planned capital works program. Examples of key drought response actions include increasing manufactured water production, increasing take from underutilised or banked supplies, conducting studies and investigations on potential measures to improve water security, and communications on water efficiency.

Whilst these guidelines apply to the next WSP rather than the 2017 WSP in place for the current regulatory period, in our view it is reasonable to infer from this the government's policy intent behind the drought response review event mechanism as set out in the earlier ministerial

[12] Queensland Department of Energy and Water Supply, *Water security program for south east Queensland: Guidelines for development Version 3,* November 2015, p.15

[13] Department of Regional Development, Manufacturing and Water, 2021, *Water Security Program Guidelines South East Queensland, Version 3.00,* p.4

referral was for the drought response review mechanism to cover both drought readiness and drought response actions.

4.3 Overall assessment

On the basis of the foregoing assessment of the two possible approaches to interpreting and applying the drought response review mechanism proposed by the QCA in its draft report, only the second is consistent with widely accepted principles for sound economic regulation and with the broader regulatory and policy framework.

Table 2 Summary assessment of alternative approaches against key regulatory principles

Key principle	Approach 1: Narrow interpretation	Approach 2: Broader interpretation
Cost recovery	Does not provide opportunity for recovery of prudent and efficient costs incurred under 'readiness' trigger	Provides provide opportunity for recovery of prudent and efficient costs incurred under 'readiness' trigger, subject to prudency and efficiency review
Efficient costs only	Incorporates robust prudency and efficiency review of claimed costs	Incorporates robust prudency and efficiency review of claimed costs
Incentives and risk allocation	May discourage Seqwater from prudent drought readiness actions in the interests of customers and the broader SEQ community	Does not discourage Seqwater from undertaking prudent drought readiness actions in the interests of customers and the broader SEQ community
Certainty	Leads to lack of clarity on future cost recovery which could adversely impact Seqwater drought readiness actions and delay drought response actions	Would provide greater clarity on future cost recovery so will not adversely impact Seqwater drought readiness actions
Congruence	Not consistent with holistic view of WSP or with specific definitions in WSP guidelines which indicate policy intent	Consistent with holistic view of WSP and with specific definitions in WSP guidelines which indicate policy intent

5 The way forward

This section proposes a way forward for:

- Interpretation and application of the drought response review event mechanism for the purposes of assessing Seqwater's current review event claim
- Clarifications to the mechanism for the future.

5.1 Interpretation and application of drought response review mechanism for the purpose of the current review event claim

Based on the assessment in the previous section, there is a strong case for adopting the second approach proposed by QCA in its draft report.

Under the approach there would be an opportunity to consider all drought readiness and drought response actions and associated expenditure in assessing the claim, rather than for some element to be ruled out altogether as would occur under the first 'narrow' interpretation underpinning QCA's proposed framework set out in the QCA's draft report.

As the QCA proposes, this would entail a rigorous review of the prudency and efficiency of all the cost items in the claim.

As discussed in the previous section, however, consistent with regulatory best practice the prudency and efficiency review of Seqwater's claim should take the perspective of whether the decisions were prudent and efficient given the state of knowledge and other circumstances which existed at the time these decisions were made, not with the benefit of hindsight.

5.2 A longer-term framework

The assessment of the current claim has highlighted the need for greater clarity on how the review mechanism should be interpreted and applied if such claims arise again in the future.

While the establishment of the drought allowance should reduce the quantum of any such future claims, it is nevertheless important to provide greater certainty as to what actions and expenditures are eligible to be included in claims under the drought response review event mechanism.

In our view it would make sense to align the definition of 'drought response' for the purposes of the review event mechanism with the definition of 'drought response action' in the latest (2021) version of the WSP guidelines issued by the Department, which provides a more detailed definition of 'drought response action' as follows:

> *Drought response action includes any measure, arrangement or strategy taken to prepare for, or respond to, drought that is triggered at or below the drought readiness level.*

In our view the definition proposed by the QCA in its draft report, which specifically excludes 'drought readiness costs', would be in direct conflict with the definition in the 2021 WSP guidelines and thus would clearly not be "in accordance with the WSP" as required by the original referral notice.

That said, we support the QCA's proposed exclusion of costs already recovered under the drought allowance to avoid 'double dipping', consistent with the principle that customers should pay no more than the efficient costs of supply. However, the wording of this clause may be better expressed in terms of "revenue collected under the drought allowance", reflecting the fact that the drought allowance also incorporates revenue offsets etc.

In addition, it would be useful to more clearly specify in advance how the assessment of prudency and efficiency of any future drought review event claim will be undertaken and what information /evidence QCA will require in order to facilitate such an assessment. This would better allow Seqwater to appropriately record such evidence at the time and reduce the resourcing costs for both the QCA and Seqwater of any such future claim review.

A Water security planning in SEQ

Water Security Program (WSP)

Seqwater owns and operates the region's bulk water supply system, including dams and weirs, conventional water treatment plants and climate resilient water sources.

Seqwater is required under the Water Act 2000 to develop a water security program to facilitate the achievement of the desired level of service objectives for water security for the SEQ region or each part of the SEQ region. Desired level of service (LOS) objectives for south-east Queensland are prescribed in the Water Regulation 2002 and detail the requirement to meet future projected demands and outline how long, how frequent and how severe water restrictions should be in times of drought.

The purpose of the water security program is to outline how the achievement of the LOS objectives will be facilitated through the arrangements, strategies and measures that Seqwater has in place.

Key requirements of the WSP

Under the Water Act, a water security program must include information about Seqwater's arrangements, strategies or measures for:

- operating the designated water security entity's assets for providing water services in the region or part of the region to which the water security program relates
- addressing future infrastructure needs, including building new infrastructure or augmenting existing infrastructure
- managing the infrastructure relevant to the designated water security entity's operations
- managing demand for water
- responding to drought conditions
- any other matter prescribed under a regulation.

The Department also issues more detailed guidelines for the content and development of the WSP. Amongst other matters, these guidelines include guidance on planning to manage drought. For example, Version 3 of these guidelines (dated November 2015) which were in place for the WSP which was in effect during the 2018-22 regulatory period required the WSP to provide for the SEQ region:

- a summary of drought response actions that Seqwater has determined it may implement to respond to drought conditions, the objective and outcomes of each of these actions, and the triggers for implementing them
- identification of any additional water supply infrastructure required and the high-level plans and/or processes to enable this infrastructure to be available when needed (including appropriate early actions, risks associated with the planning process, and indicative timeframes required to develop detailed plans and build infrastructure).

- Demonstrated ability to implement drought actions when triggered under the drought response, i.e., appropriate plans are in place to ensure that the drought response actions can be undertaken when needed (i.e. the readiness to enact the drought response based on current operations case and an appropriate risk profile).
- For the drought response grid-connected communities, an outline of the drought response actions and the specified trigger levels for key drought response activities including:
  - Drought readiness level (taking action to prepare for drought and reduce the risk of reaching drought response level).
  - Drought response level (taking action in response to drought).

These guidelines also stated that the WSP may outline options for drought response that may be dependent upon the nature of the drought and/or community feedback.

These guidelines have recently been revised and issued to Seqwater for use as part of the water security program review to be completed in 2022. One notable feature of the revised (2021) guidelines is a more detailed definition of 'drought response action' as follows:

> *Drought response action includes any measure, arrangement or strategy taken to prepare for, or respond to, drought that is triggered at or below the drought readiness level*[14].

Key drought-related elements of the 2017 WSP

Seqwater published its second WSP in 2017. The Program outlines Seqwater's plan for providing the region's drinking water over the subsequent 30 years (2016-2046) to meet the Government's specified Level of Service (LOS) objectives.

While the 2017 WSP sets out well-developed plans for managing both long-term and shorter-term water security in SEQ, the WSP itself stresses the importance of retaining sufficient flexibility to facilitate adaptive responses:

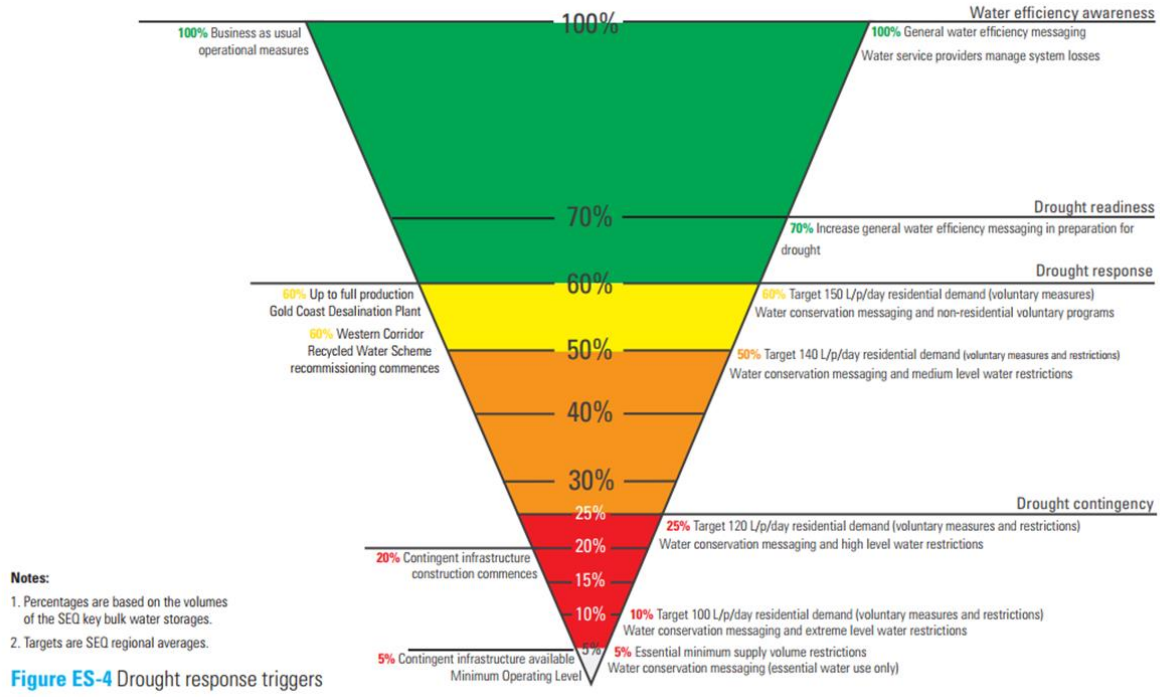
> *"This Program is adaptive. It does not propose one water security solution with a set timeframe. Rather, it identifies ways we can respond to changing influences and sets triggers for implementing options or reviewing and changing our response.*
>
> *While our responses are planned in advance, investment decisions will be based on conditions at the time and depend on what options have been previously implemented.*
>
> *Adaptive planning aims to deliver the right option at the right time, leading to an optimised, whole-of-region solution"*[15].

An important element of the 2017 WSP relates to planning for drought. This includes the articulation of a number of different drought response' triggers for various actions to help manage the impacts of a potentially emerging or actual drought. The drought response triggers include drought readiness, drought response and drought contingency (see **Figure 2**).

[14] Department of Regional Development, Manufacturing and Water, 2021, *Water Security Program Guidelines South East Queensland, Version 3.00,* p.4

[15] Seqwater (2017) *Water for life South East Queensland's Water Security Program 2016-2046*, p.5

Figure 2: Drought response triggers in the 2017 Water Security Program



Source: Seqwater 2017 WSP

It is important to note that for these activities to occur at the specified trigger points, other supporting activities will have needed to occur beforehand. Many of the activities outlined in the drought triangle require planning and preparation to successfully implement. For example, the Water Security Program identifies that identifying sizing and selected sites for contingency supplies will be done well in advance of the contingency supply build trigger (p89).

It is also important to note that while these triggers relate to aggregate storage levels across the SEQ Water Grid, some droughts my affect only one or more sub-regions and given constraints on the ability to move water, may necessitate location-specific drought response actions.

It is also clear from the WSP that these triggers are not intended to be applied in a purely mechanistic fashion regardless of conditions at the time, or that the specific actions listed in the 2017 WSP under each of the triggers are necessarily exhaustive:

> *The unpredictable nature of drought means adaptive responses are needed. As a drought unfolds, our response will be proportional to its severity and duration and take into account influences, such as changing population, water use behaviours, infrastructure and technology.*
>
> *Our drought response plan has been developed to balance cost, water security and community outcomes, and implement the lessons learned from the Millennium Drought. It includes triggers for actions to increase climate-resilient supply, decrease demand, and change the operation of the water grid to optimise available water resources. It uses existing Seqwater infrastructure and optimally applies the*

> *system operation, supply and demand levers to deliver the greatest value to our communities*[16].

This flexibility extends to the operationalisation of the various drought response triggers:

> *Our drought response approach is adaptive to allow actions and triggers to adjust to demand, climate, severity of drought and other external factors. This flexibility is critical to a resilient region. Nevertheless, triggers should not be significantly delayed or the benefit of the actions will be diminished. In a severe drought, delays could result in a serious risk to water security. Some actions may be brought forward if the drought is more severe than the supporting modelling has anticipated*[17].

The 2022 WSP

Seqwater is currently developing the next version of the Water Security Program, due to be released in 2022.

Once again, planning for drought will be a key component of the 2022 WSP. Frontier Economics understands that the drought response plan in the 2022 WSP will incorporate learnings from the recent drought in SEQ, including the recognition that every drought is different (e.g. some are only in one sub-region of SEQ). This means, for example, that while the water grid offers drought resilience by enabling treated water to be moved around the region as needed, it can supplement but not completely replace local water supplies, which may be depleted due to drought.

This underlines the need for the drought response strategy in the 2022 WSP to provide the flexibility to respond to the needs of each drought situation and effectively manage uncertainties.

[16] Seqwater (2017) *Water for life South East Queensland's Water Security Program 2016-2046*, p. 10

[17] Seqwater (2017) *Water for life South East Queensland's Water Security Program 2016-2046*, p. 90

Frontier Economics

Brisbane | Melbourne | Singapore | Sydney

Frontier Economics Pty Ltd
395 Collins Street Melbourne Victoria 3000

Tel: +61 3 9620 4488
https://www.frontier-economics.com.au

ACN: 087 553 124 ABN: 13 087 553 124