Review of irrigation prices

Pricing principles and tariff structures

SunWater submission

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Summary

The Queensland Competition Authority (QCA) has published a paper by PricewaterhouseCoopers (PWC) examining tariff structures and other related issues.

Since this time, the QCA Ministers issued a revised referral notice that required the QCA to recommend prices that provided a revenue stream to SunWater to allow it to recover efficient operational, maintenance and administrative costs and renewals expenditure through a renewals annuity (lower bound costs). The referral notice also requires the QCA to accept certain matters and adopt tariff groups as proposed in SunWater's Network Service Plans (NSPs).

SunWater has proposed tariff groupings similar to those that currently exist. However distribution tariff groups are to be set only to recover the costs of the distribution system, effectively separating the bulk water aspects of those tariffs into the bulk water charge. This is referred to as "unbundling" and it is an essential outcome of the process that SunWater is compliant with the ACCC Water Charge (Termination Fee) Rules.

SunWater has also proposed to continue with the current drainage tariff groups, and has submitted that drainage levies are maintained in real terms and revenues applied as an offset to the combined costs of the drainage and water supply system.

The structure of tariffs is to be considered by the QCA. SunWater submits that the QCA should reform the structure of tariffs so they reflect the underlying fixed and variable costs of the service, thereby avoiding distortionary price signals and ensuring that lower bound costs are recovered. This approach also accords with the pricing reforms implemented in the Murray-Darling Basin, and also satisfies the requirements of the referral notice for the QCA to:

- have regard to the fixed and variable nature of SunWater's underlying costs when considering tariff structures; and
- recommend appropriate regulatory arrangements, including price review triggers and other mechanisms, to manage the risks associated with recovering lower bound cost.

SunWater has examined the basis for fixed tariffs and the assignment of costs to tariff elements, with the fixed charge for bulk water tariff based on water access entitlements, and water delivery entitlements for distribution systems. For bulk water tariffs, a greater proportion of the renewals annuity should be assigned to high priority entitlements in recognition that 1ML of high priority consumes a greater proportion of storage capacity (and hence capital costs) than for 1ML of medium priority.

Demand forecasts are not relevant for price setting when consumption charges are set to recover variable costs of supply. Nonetheless, SunWater's NSPs have estimated

total costs over the regulatory period, using historic demand as the basis for its forecasts.[1]

The referral notice also defines lower bound costs as including recreation management costs. The scope and standard of those recreation services can be determined having regard to modern-day development requirements for dam construction, although SunWater's recreation facilities do not approach this standard.

SunWater has separately set out the basis for its cost forecasts to the QCA, where most inputs are forecast to increase at the rate of inflation. SunWater has assumed the mid-point of the target range for the Reserve Bank of Australia (2.5%). Prices should be set in real terms, and indexed annually at the Consumer Price Index to reflect the general rate of inflation across the economy.

The free allocations examined in the PWC issues paper relate to past compensation arrangements designed to ensure certain pre-existing water users were no worse off as a result of a dam construction. Accordingly, the 'costs' of these free water allocations should be dealt with no differently to other compensation arrangements with affected parties such as landholders, railway owners, electricity distributors etc, and recovered from water users. In practical terms, this means that bulk water costs are recovered from the balance of water access entitlement holders in the scheme.

[1] This does not mean that these forecasts should be used to determine any revenue cap, should a revenue cap be applied.

1 Introduction

The Queensland Competition Authority (QCA) is to recommend prices for SunWater's irrigation customers. The QCA released an issues paper prepared by PricewaterhouseCoopers (PWC) titled 'Pricing Principles and Tariff Structures for SunWater's Water Supply Schemes' (the PWC issues paper).

Following the release of that paper, the QCA Ministers issued a revised referral notice that required the QCA to recommend prices that provided a revenue stream to SunWater to allow it to recover efficient operational, maintenance and administrative costs and renewals expenditure through a renewals annuity (lower bound costs).

The referral notice also requires the QCA to:

- accept that efficient operating costs are to include recreation management costs and other specified costs;
- have regard to the fixed and variable nature of SunWater's underlying costs when considering tariff structures;
- adopt tariff groups as proposed in SunWater's network service plans (NSPs), and to not investigate additional nodal pricing arrangements;
- recommend appropriate regulatory arrangements, including price review triggers and other mechanisms, to manage the risks associated with recovering lower bound cost; and
- review drainage charges and channel waterharvesting charges.

SunWater has nominated tariff groups in its NSPs which are essentially the same as those that currently apply. However, distribution tariff groups are to be unbundled from bulk water costs, so that they only relate to the recovery of distribution costs.

This is SunWater's submission in response to this issues paper and related aspects of the referral notice. This submission is set out as follows:

- Section 2 sets out SunWater's position for tariff structures and other charges;
- Section 3 discusses SunWater's proposed approach for determining the prudent standard and scope of recreation management costs;
- Section 4 examines approaches to forecasting water demand and the need for such demand forecasts;
- Section 5 discusses cost and price escalation;
- Section 6 addresses the treatment of free allocations; and
- Section 7 concludes the report.

2 Tariff structure and other charges

The issues paper discusses a range of issues and approaches for structuring tariffs and setting charges for channel harvesting and drainage (refer chapters 3 and 4).

The referral notice requires the QCA to adopt tariff groups as proposed in SunWater's NSPs. SunWater has nominated these tariff groups in these plans submitted to the Authority. By and large, these tariff groups reflect historic arrangements, although there a need to revise certain aspects of these tariffs going forward. This section focuses on the matters now relevant to the revised referral notice, examining:

- the need to unbundle distribution tariffs, as per SunWater's nominated tariffs for distribution system;
- the structure of tariffs;
- channel harvesting charges; and
- drainage charges.

2.1 Unbundling of distribution tariffs

Currently, distribution tariffs incorporate bulk water and distribution cost recovery into a single 'bundled' charge. SunWater has nominated tariff groups for distribution systems that only relate to the recovery of distribution costs. This is termed unbundling and provides greater transparency of costs being recovered via the tariff structure. This section provides the rationale for SunWater's nomination of unbundled tariffs in NSPs.

The current bundled tariffs are essentially a legacy arrangement which has been in place since before the first round of pricing reforms in 2000 by the Water Reform Unit. However, since this time there have been significant reforms that have sought to clearly separate use approvals, water access entitlements (WAE) and water delivery entitlements (WDE) from a distribution system. For example, the Australian Competition and Consumer Commission (ACCC) recently highlighted the need to separate these rights in recommending water market rules for the Murray-Darling Basin:[2]

> *...the unbundling of water access rights can increase trading opportunities and potentially speed up trade approvals where trades in a particular right are not conditional on processes or approvals involving other separate instruments or processes…*

Indeed, the specification of a separate water delivery entitlement is emerging as a policy and regulatory requirement. For example, the ACCC has proposed water

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[2] ACCC. *Water Trading Rules, Final Advice* (March 2010). pX

market rules for the Murray-Darling Basin that require service providers in distribution systems to separately specify WAE from WDE.[3]

Furthermore, the ACCC has deliberately designed the rules for termination fees from distribution systems in the Murray Darling Basin to facilitate unbundling.[4] The rules impose limitations on charging termination fees where the bulk water and distribution system tariffs remain bundled.

Unbundled tariffs are also a common feature among distribution systems elsewhere in Australia. For example, systems owned by irrigation cooperatives in NSW typically separate the charge for distribution services from the charges paid to State Water Corporation for bulk water. Similarly, Goulburn-Murray Water in Victoria charge separate tariffs for bulk water supply and distribution.

SunWater has specified the aggregate WDE in each distribution system's NSP. These WDE's are based on the original WAEs held in each system,[5] which typically reflected the original design basis for each system given WAE were originally tied to land.

A WDE should not be affected by the trade of water. This means that if an irrigator on the distribution system were to purchase an additional 100ML of WAE, the irrigator's charges should not be affected as their WDE does not change. Conversely, there should be no change to the distribution system charges for an irrigator who sells 100ML of WAE to another user.

It then follows that bulk water charges (which remain with the transferred WAE) should be clearly differentiated from distribution charges (which remain with a WDE). SunWater has therefore nominated distribution tariff groups set to recover only the costs of the distribution network. Customers within distribution networks will also pay bulk water charges, to the extent they also hold WAE.

2.2 Tariff structure

As set out in the PWC issues paper, the current tariffs are set so that each of the fixed and volumetric components recover a proportion of the revenue allowance. This proportion is typically 70% (fixed) and 30% (variable).

This approach was first adopted by the Water Reform Unit when setting prices in 2000, and has been carried forward to the current irrigation prices. SunWater acknowledges that industry and regulatory practice has evolved since this time, and there is now a clear preference for tariffs set to align with cost structures. That is,

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3 ACCC. *Water Trading Rules, Final Advice* (March 2010). Rule Advice (7-A). p223

4 ACCC. Water Charge (Termination Fee) Rules 2009. Refer to Rule 6B in particular.

5 For example, under *Section 8 of the Water Resources Act 1989*.

volumetric charges set to recover the additional cost of supplying a ML of water (eg pumping), with the balance of costs recovered in a fixed charge.

Although the PWC issues paper canvassed a number of tariff design issues, there are three key matters for the current review of tariff structure:

- appropriate price signals to guide efficient water use decisions;
- ensuring SunWater can recover lower bound costs through regulatory arrangements that appropriately deal with risks outside of SunWater's control; and
- reviewing the tariff elements themselves and the allocation of costs to tariff elements.

2.2.1 Price signals

The current tariff structure does not provide any meaningful information for irrigation users, in so far as the consumption charge does not reflect any particular cost.

Since tariffs were originally developed, concerns have been raised about tariff structures that involve consumption charges exceeding the variable cost of supply, on the basis that it would be inefficient for an irrigator to decide to not irrigate if the costs of doing so (eg foregone production) were greater than the avoided costs of supplying the water.

This is important to encourage water use decisions that are economically efficient. The ACCC has recently considered this very issue in developing draft pricing principles for infrastructure charges in the Murray-Darling Basin, where it concluded that tariff structure should align with the underlying cost structure:[6]

> *... charges must promote the economically efficient use of water infrastructure assets. In practice, this can be best achieved where the fixed and variable components of a charge recover the fixed and variable costs of providing services.*

Earlier reviews conducted by the ACCC considered this matter in more detail:[7]

> *The value assigned to an additional ML of water consumed by a bulk water customer within the basin reflects the market price of water (assuming that customer can trade their water) plus the cost of the storage and delivery services at the margin. Hence, the variable component of the bulk water charge should be set with reference to the marginal cost of storage and delivery.*

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6 ACCC. *ACCC pricing principles for pricing approvals or determinations under the Water Charge (Infrastructure) rules. Draft.* (July 2010). pp44-45.

7 ACCC. *Issues Paper. Bulk Water Charge Rules* (July 2008). pp45-46

As a result, the structure of delivery charges should reflect the underlying cost of providing the service, that is, volumetric charges should recover variable costs and fixed charges should recover fixed costs…

A pricing structure where the volumetric charge exceeds the actual variable cost of supply will generally result in underutilisation of the service, since the price for delivery of an additional unit (ML) of water exceeds the marginal cost of delivery. The scarcity value of water is established through water markets and water resource efficiency is promoted by the efficient functioning of water markets.

The ACCC has sought to implement more efficient tariff structures initially through setting rules for termination fees from distribution networks. These rules cap the termination fee to a multiple of 10 times the value of an annual fixed access charge, and requires that fixed access charge recover (and only recover) the fixed costs of the system. The ACCC's rationale for this approach was as follows:[8]

This is to encourage operators to move towards charging access fees more closely aligned with the actual split between their fixed and variable costs. This will send the right price signals to irrigators about terminating or retaining access, and to operators about rationalisation and the efficient level of service provision.

The PWC issues paper contemplated consumption charges being set to recover more than variable costs in schemes where water availability was stable on the basis that "revenue risk to SunWater is less critical, and variable charges can be applied to send demand conservation signals to users". As set out above, the ACCC cautioned against such an approach as it may inefficiently discourage water use by irrigators. The PWC issues paper also acknowledged this:[9]

It is acknowledged that structures which depart from the underlying fixed/variable cost structures may not be efficient. For example, a volumetric structure where the charge exceeds the actual variable cost of supply will result in underutilisation of the service, since the price for the delivery of an additional unit (ML) of water exceeds the marginal cost of delivery.

The PWC issues paper also discussed setting volumetric charges having regard to capacity to pay during periods of poor water availability. The ACCC also considered this issue: [10]

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8 ACCC. *Explanatory Statement. Water Act 2007. Water Charge (Termination Fees) Rules 2009*. p6.

9 PWC. p21.

10 ACCC. *Issues Paper. Bulk Water Charge Rules* (July 2008). p46

Bulk water service providers may also set their volumetric charge in excess of the variable cost of supply to provide a better alignment of water charges with their customers' capacity to pay. The rationale being that in times of surplus water, their customers (who are price takers) are able to run more profitable businesses and have more capacity to meet the high fixed cost of supply. During drought years, however, bulk water customers may be less profitable, making them less able to meet the high fixed costs of supply.

The concern for the ACCC is whether such pricing approaches are efficient and whether the bulk water service provider is best placed to provide a cash management or insurance service.

The PWC issues paper sets out the theoretical basis for marginal cost pricing, as well as the practical limitations. It states that long run marginal cost (LRMC) is typically accepted as the most appropriate price signal to users:[11]

LRMC is generally deemed as the appropriate measure by water regulators in Australia based on the rationale that it provides signals to water users as to the cost of future infrastructure augmentations.

The PWC issues paper concludes that, given the complexities in applying LRMC, it should be used as a guide only.

In any case, LRMC is irrelevant as a pricing signal for bulk water and distribution tariffs. This is because the service framework between SunWater and its customers vests responsibility for the demand-supply balance with individual irrigators, not SunWater. SunWater has termed this arrangement as a decentralised supply regime, which is described in SunWater's submission to the QCA at http://www.qca.org.au/files/W-Sun-irrig-price-SunWater-WaterSupSch-ServFramBackgrndPaper-0610.pdf.

It should also be noted that the referral notice requires the Authority to have regard to the fixed and variable nature of the underlying business in considering tariff structures. Adopting tariffs that recover fixed charges via a fixed charge clearly align with this requirement.

In closing, there is an imperative to reform existing tariffs to provide more appropriate price signals. Such reforms should align with more contemporary regulatory practice, as evidenced by the ACCC's recent consideration of this issue.

SunWater's proposed position

[11] PWC. p21.

SunWater submits that tariffs should be revised so that the fixed charge recovers the fixed costs of supply, while the consumption charge recovers costs that vary with volume supplied (eg electricity costs for pumping).

2.2.2 Recovery of lower bound costs and demand risk

It is important to note that lower bound costs are the minimum costs that can be recovered from users while maintaining a minimum level of financial viability for those assets.[12] This means that if pricing arrangements expose a business to revenue risk, lower bound costs may go unrecovered.

The referral notice requires the Authority to recommend appropriate regulatory arrangements to manage risks associated with the recovery of lower bound costs that are outside SunWater's control. Customer demand is clearly a risk that cannot be managed by SunWater, given customers own water access entitlements and are responsible for procuring rights to water (eg via trade) and managing their water use.

Customer demand risks were a key matter considered by NERA[13] in their issues paper on the form of regulation. In this paper, NERA supported SunWater holding less, rather than more, demand risk in recognition of the above. NERA's paper also recognised that tariff structure could address this issue[14]:

> *Regardless of the form of price control chosen, an analysis of the outcomes of the current price path indicates that SunWater may be bearing more risk than it could be expected to manage compared to its customers. If continued, this may be leading to insufficient revenues depending on the variation between actual and forecast demand in the future. Greater revenue certainty for SunWater can be attained by either aligning the tariff structure with the cost structure under a price cap or through the application of a revenue cap.*

In closing, SunWater's proposed tariff regime is essential for ensuring that lower bound costs can be recovered, regardless of customer demand for water – a factor beyond the control of SunWater.

SunWater's proposed position

SunWater submits that its proposed tariff regime, where fixed charges should be set to recover fixed costs, is necessary to ensure it can recover lower bound costs regardless of customer demand. Moreover, customer demand is outside SunWater's control, and

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12 Indeed, lower bound pricing is well below the threshold level at which regulators normally consider financial viability and revenue adequacy, as this normally includes a return on existing assets. Failure to earn a return on and of capital could be expected to result in the assets not being replaced at the end of their useful lives.

13 NERA. *Form of price control: SunWater Water Supply Schemes. Issues paper prepared for the Queensland Competition Authority* (August 2010).

14 NERA Economic Consulting. *Form of Pricing Control: SunWater Water Supply Schemes* (August 2010). p39

the referral notice requires that the QCA implements arrangements to manage this risk.

SunWater also submits that its proposed tariff structure is a superior response to a revenue cap, given the imprecision of forecasting demand.

2.2.3 Tariff structure and cost allocation

Tariff design requires consideration of the tariff components, as well as the assignment of costs to those components. The considerations for bulk water and distribution systems are considered separately below, along with SunWater's position on each.

Bulk water schemes

The bulk water service exists for the holders of WAE holders in each scheme. Accordingly, fixed charges are levied per unit of nominal WAE. SunWater does not propose to alter this arrangement. [15]

However, a range of WAE normally exist within a water supply scheme, typically medium and high priority. The most common feature of a high priority WAE is that the water sharing rules require a certain volume of water to be set aside in storage for the current or future years, before water is available to medium priority WAE.

A key issue for tariff design is the extent to which tariffs should differentiate between high and medium WAE. In order for tariffs to be cost-reflective, any differences in tariffs should be aligned with differences in cost.

There is clearly a difference in capital costs associated with medium and high priority WAE, as 1ML of high priority WAE commands a greater proportion of storage capacity than 1ML of medium priority given the water sharing rules.

SunWater has undertaken detailed hydrologic analysis to determine the proportional share of storage capacity between these priority groups, to arrive at Hydrologic Utilisation Factors (HUFs) for each scheme. These HUFs are proposed as the basis for capital cost allocation between priority classes, to take account of the different relative share of storage capacity, and are set out in more detail in a separate issues paper.

Accordingly, the renewals annuity for a bulk water scheme would be allocated to medium and high priority WAEs using the HUF percentage in that scheme, and then to individual WAE of each priority class proportional to the total nominal volume of WAE in each class.

However, it is important to separately consider whether medium and high WAE have different impacts upon operating costs as operating costs for bulk water schemes are

[15] But subject to adjustments for free allocations, as discussed in a later section.

predominantly driven by compliance, and to a lesser extent service provision. These activities are summarised below.

Table 1. Operating activities

Element	Item	Activity
Service Provision	Water delivery	Releasing water to meet customer demand, and other license requirements, flow surveillance, metering etc.
	Customer service and account management	Manage account transactions, billing, customer enquiries etc.
Compliance	Resource operations licence	Administer water sharing rules, water quality monitoring, flow and quality reporting, flow event management etc
	Dam safety	Routine dam safety inspections and audits, regulatory reporting
	Environmental management	Manage environmental risks, implement mitigation measures and reporting procedures (eg fish death)
	Land management	Weed and pest control, managing access and trespass, rates and land tax
	Workplace health and safety	Implement appropriate procedures / work practices. Conduct audits and reviews
	Financial reporting and taxation	Comply with statutory reporting requirements, tax reporting, GST compliance, debt management etc
Other	Corporate	Human resource management, procurement, legal services, CEO and board, IT etc,

These costs and level of each activity are not affected by the type of WAE in a scheme, and are incurred regardless of whether there is a greater or lesser proportion of high or medium priority WAE. Accordingly, there is no need for tariffs to assign a greater proportion of operating costs to high priority WAE.

SunWater's proposed position

SunWater submits that the fixed charge for bulk water schemes applies to the nominal volume of WAE in a water supply scheme[16]. In allocating capital costs to these WAE, an adjustment is required to account for different priority WAEs, as high priority WAEs consume a greater proportion of storage capacity. SunWater's proposed HUFs provide the basis for this adjustment.

No such adjustment is required for operating costs.

Consumption charges should be set to recover costs that vary with volume delivered, and this would only apply for tariff groups involving pumping costs.

[16] Subject to adjustments for free allocations, as discussed later in this submission.

Distribution systems

An important outcome of unbundling described above is the separation of water delivery services in a distribution system, from the access to water itself under a WAE. This means that distribution tariffs should relate to the access to capacity in the system, and assign costs to users according to their share of that capacity.

This capacity is best measured through WDEs, described above, as this is the best connection to historical access arrangements in each system. This approach is administratively simple (WDE are already defined), equitable (in so far as WDE represent a users' share of capacity) and efficient (the costs of holding a WDE are clearly signalled to the user). Moreover, fixed charges need to be applied to WDEs in order to achieve the price signals about holding capacity rights to the network as discussed in earlier sections. Indeed, the ACCC recognised that a benefit of unbundling was the specification of delivery rights that can be used as a basis for determining fixed charges. [17]

SunWater's proposed position

SunWater submits that fixed distribution charges should be levied upon customers' WDE within the distribution system. These WDEs have been specified in each NSP.

2.3 Channel harvesting

Channel harvesting is the supply of water in a distribution system which has been diverted under a waterharvesting entitlement held by SunWater. Channel harvesting occurs in the Burdekin-Haughton and St George water supply schemes.

In order to conceptualise the issues, it is important to examine the supply chain and how it relates to channel harvesting.

Table 2. Overview of the supply chain as it relates to channel harvesting

Component	Service offering	Relates to	Pricing basis
Rights to divert water	Access to water	SunWater's waterharvesting entitlement	Set in a competitive environment where users have access to water under other arrangements (eg their own WAE or temporary transfers)
Bulk Water	Not applicable.	Supplemented WAE only, and not unsupplemented (waterharvesting) entitlements.	No charges applicable.

[17] ACCC. *Water Trading Rules, Final Advice* (March 2010). p218, p221

Component	Service offering	Relates to	Pricing basis
Distribution	Diversion of water for the customer and transportation to the customer offtake	Water Delivery Entitlements, which determine the rights to infrastructure capacity (eg peak flow).	Charges set to recover efficient infrastructure costs.

Customers in distribution systems hold a WDE which govern their access to the system. This is expressed in terms of a roster or peak flow entitlement, which applies at times when demand exceeds supply.

A customer could hold a WDE and not hold any WAE of their own. Instead, such customers could secure rights to water through a temporary transfer or other means, including via channel harvesting. Under this unbundled regime, charges for users of a distribution system are set independently of their access to water.

There is no need to differentiate distribution charges based on the source of water diverted, transported and delivered to a customer's offtake – for example whether water is diverted as a temporary transfer from another WAE holder, the customer's WAE or a water harvesting entitlement.

However, it may be necessary to account for the costs of delivering water in the distribution system when determining the efficient cost base and revenue requirement. This requires forecasts of water use to determine pumping costs. These use forecasts should incorporate the delivery of all sources of water, including water made available via channel harvesting.

Finally, the charges paid to access the waterharvesting entitlement itself should be considered separately. These charges are not related to infrastructure costs, but will instead reflect the overall market conditions for water in each scheme. For example, there will be competition among sellers in the market, who will include WAE holders willing to temporary trade water, and SunWater as the holder of the waterharvesting entitlement.

SunWater's proposed position

SunWater submits that charges within a distribution system should not differentiate between water sources. That is, the same pricing arrangements for delivery should apply regardless of how a customer has sourced water – eg from the customer's own WAE, temporary trade or channel harvesting or other access.

Prices relating to access to the entitlement itself should continue to be set within a market setting and therefore outside the scope of regulatory oversight.

2.4 Drainage charges

Drainage networks exist in five of the eight distribution systems that service irrigators. In four of these systems, a separate drainage charge applies. During the previous price path, a range of different arrangements emerged as a result of discussions with customer representatives in each distribution system.

The referral notice to the QCA requires the Authority to adopt tariff groups as proposed in SunWater's NSPs. SunWater has nominated the same drainage tariff groups as currently exist. This means that drainage charges will continue in four of these five distribution systems, with Mareeba-Dimbulah continuing to have no separate drainage rate.

Drainage networks in distribution systems were part of integrated land development of irrigation areas. These developments often included resumption of land and subdivision into irrigation farms. Importantly, there were two aspects to the design of irrigation farms:

- water supply via a channel/pipeline system, where design criteria related to the peak irrigation demands and were often based on irrigation rosters[18] and/or peak flows; and
- drainage of water from irrigation farms to avoid flooding or waterlogging of crops.

This means there was an integrated relationship between water delivery and drainage in the design of irrigation farms.

A case exists to abolish drainage charges in favour of a single fixed charge for the distribution system (as applies in Mareeba-Dimbulah). Such a regime reflects the interrelationship between the drainage and water supply network infrastructure to provide a combined service to irrigation farms. At the same time, there is an argument that tariffs should be set to send appropriate price signals to users, and that the drainage service should be priced separately.

However changing the current tariff arrangements would require significant time and effort and identifying and managing unforseen customer impacts or anomalous situations that might arise.

As an interim measure for the upcoming regulatory period, it is proposed that drainage and water supply costs in the distribution system be considered in aggregate and recovered through both drainage levies and water supply charges. It is not proposed to change the drainage levy but rather apply the associated revenues towards the recovery of the total distribution system costs.

[18] For example, being able to irrigate a certain area, at a certain rate at certain intervals (eg one day in three).

SunWater's proposed position

SunWater has proposed to retain the existing tariff groups for drainage services in its Network Service Plans. This means that drainage levies will continue in four of its distribution systems.

SunWater submits that the existing drainage prices should be retained for the next pricing period, subject to an annual CPI adjustment, and that drainage levy revenues be applied to offset the cost of the distribution network (including water supply and drainage infrastructure).

SunWater also submits that this arrangement be reviewed at the end of the next regulatory period, with a view to incorporating drainage costs into a combined fixed charge for the distribution system.

2.5 Other matters

The PWC issues paper canvassed a range of other matters, including off-peak pricing, locational factors and declining block tariffs.

SunWater has not made a submission on these issues, as they are not relevant given the tariff groups nominated in NSPs are to be accepted by the QCA.

3 Approach to recovering recreational costs

The PWC issues paper examines whether (and to what extent) recreation costs should be recovered from water access entitlement (WAE) holders.

Providing recreation amenities at dams is a modern-day statutory requirement, as reflected in various environmental impact statements and planning approvals. Accordingly, recreation management costs are similar to a compliance cost or a 'cost of business'. The referral notice requires that recreation management costs be included within the scope of operating, maintenance and administrative costs to be recovered from irrigation prices.

SunWater acknowledges that the standard and scope of recreation facilities should be reasonable, and WAE holders should not pay for excessive facilities. A reasonable standard and scope of facilities can be determined by reference to the modern-day requirements under planning approvals. These approvals typically require public access to storages and provision of amenities such as picnic areas, toilets, water, and boat ramps as a minimum.

In many cases, SunWater's recreation facilities are significantly lesser than this scope, or SunWater has negotiated the transfer of those facilities to third parties

This section sets out SunWater's submission in more detail.

3.1 Recreation facilities as a modern-day compliance cost

Prior to the establishment of current planning laws, the requirements for recreational facilities were usually incorporated into the scope of project approved by Government. These approvals did not discern between the desires of government as dam proponent, and the regulatory requirements of government in approving the development itself.

These roles have since crystallised with the implementation of more formal planning approval processes and the institutional separation of the proponent and development approval roles. This separation highlights that the provision of recreation services is clearly a compliance condition, as evidenced by recent approval conditions set by the Queensland Coordinator-General. For example:

- Wyaralong Dam – a requirement to provide at least $4 million towards recreational facilities at the dam. Of this amount, $3M was dedicated to the development of new facilities, which include:
    - approximately 40 kilometres of multi-use trails for walking, horse and mountain bike riding and canoeing;
    - over 10 kilometres of dedicated mountain biking;
    - camping and picnic facilities; and

- other facilities such as parking bays, pathways, boat ramps, facilities for horse floats, toilets, drinking water and showers; [19]

- Hinze Dam raising - a requirement to offset the inundation of the pre-existing recreation facilities with a new lakeside park, replacement of the existing cafe with a kiosk, and rehabilitation and upgrade to existing facilities downstream of the dam wall;[20]

- Traveston Crossing Dam – a requirement to provide at least $20M to implement a community and economic development program, of which $12.2M was to be set aside for a recreational tourism program. This program was required to include facilities at the dam such as trails, picnic areas, interpretive centre as well as broader regional initiatives. [21]

3.2 Prudent scope and standard of recreation facilities

Recent approval conditions provide guidance about the scope of recreational facilities required, and are a reference point for assessing the scope and standard of facilities at SunWater's storages.

SunWater's current recreation facilities are well below this modern-day scope and standard, and hence should not be considered excessive. SunWater does not intend to upgrade its facilities to meet this scope. [22]

SunWater's proposed position

SunWater submits that the reasonable scope and standard should be referenced against the modern-day requirements for recreation facilities at new storage developments, as evidenced through recent planning approvals. However, for dams built since the introduction of formal planning laws governing the construction of dams, the scope and standard should not exceed that set out in the development approval for that dam.

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[19] Queensland Department of Infrastructure and Planning. *Coordinator-General's Report. Wyaralong Dam* (8 October 2008). p151, 172.

[20] Queensland Department of Infrastructure and Planning. *Coordinator General's Report. Hinze Dam Stage 3* (October 2007). p127.

[21] Queensland Department of Infrastructure and Planning. *Coordinator General's Report. Traveston Crossing Dam* Stage 1 (October 2009). pp 193-194.

[22] This does not include upgrading facilities to meet compliance standards or current-day standards, such as upgrades for water treatment plants and wastewater treatment plants. Similarly, this would exclude expenditure related to public safety and managing public access, such as signage, fencing, security etc.

3.3 Recovery of costs from other sectors

The PWC issues paper identified a number of options to recover the costs of recreation facilities, including recreation users themselves. PWC noted that:[23]

> *There are no examples where recreational costs are recovered directly from recreational users by dam operators. It is likely that this outcome reflects a requirement, such as a government decision, that these costs should not be recovered from recreational users; the fact that no charging mechanism is available for imposing charges on recreational users (including legal mechanisms or physical mechanism for recovering costs); or that the costs of imposing charges on recreational users exceeds the benefits in doing so.*

While it is possible to charge for some recreational activities, such as camping, it is not always cost effective to do so. SunWater supports PWC's observations that there are no charging mechanisms in other cases for recreational users, and that the costs of administering a charging regime would be prohibitive.

SunWater has to date pursued opportunities to hand over recreational facilities to local governments (as indicated in the PWC issues paper). While it has been successful in some instances, it should be noted that these opportunities require the agreement of the participating local government. Clearly, SunWater cannot make unilateral decisions to pass the recreational facilities (and costs) to these councils.

The PWC issues paper also refers to the Connors River Dam EIS, where SunWater proposed to develop recreational facilities in anticipation of the planning approval requirements:

> *The recreation area is proposed to be approximately 2 ha in size and include a range of day-use facilities. These would be determined through consultation with Isaac Regional Council, but could include a boat ramp, picnic facilities, toilet facilities and general landscaping... It is proposed that maintenance and management of the recreation reserve would be vested with Isaac Regional Council and the provision of the recreation area is subject to the agreement by Council to maintain and manage this facility.*

It is important to note that the transfer of the recreation reserve to Council is a proposal, and could not occur without Council's consent.

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[23] PWC. p42.

SunWater's proposed position

In some circumstances SunWater has been able to negotiate arrangements for local governments to take over responsibility for recreation facilities. Where cost savings arise, these should be passed through in prices to WAE holders.

However, it is not always feasible for SunWater to negotiate these arrangements at all dams as there must be a willing counterparty.

SunWater submits that it is generally not practical to recover the costs of recreational activities from the users of recreation facilities, and the costs of doing so will generally outweigh the benefits. This does not mean that SunWater should not pursue opportunities to reduce or offset costs as they arise – for example by transferring facilities to local governments. However, it should be acknowledged that such opportunities require a willing counterparty, and hence are not within SunWater's control.

4 Approach to forecasting water demand

As set out in earlier sections, SunWater has submitted that tariffs should be set so that consumption charges only recover those costs that vary with demand. This would mean that consumption charges in each tariff group will effectively recover the unit cost of pumping in each tariff group to meet demand.

Moreover, SunWater has submitted that it should not bear demand risk, and that it does not intend for irrigation prices to recover the costs of any capacity augmentation.

Accordingly, demand forecasts are not relevant for price setting purposes under SunWater's proposed tariff regime.

SunWater's NSPs have included forecast usage in order to estimate electricity costs over the regulatory period. These forecasts are largely based on historic averages, with adjustments for scheme-specific factors. PWC generally supported the use of historic averages as a reasonable basis for forecasting future demand for irrigation water.[24]

SunWater's proposed position

SunWater submits that demand forecasting is not relevant to the price setting process, as SunWater should not bear demand risk. Nonetheless, demand forecasts have been made to estimate total operating costs in SunWater's NSPs, using historic water use as the reference point.

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[24] PWC Issues Paper, p51.

5 Approach to cost escalation and price indexation

The PWC issues paper considered approaches for cost escalation and price indexation separately.

The referral notice requires prices to be maintained in real terms where they are already recovering lower bound costs, and requires the Authority to recommend an appropriate measure of inflation.

The referral notice also requires the Authority to consider price paths where price increases in other schemes are required above the rate of inflation. In both cases, the Authority must consider and recommend an appropriate rate of inflation.

5.1 Cost escalation

SunWater has prepared a background paper to accompany its NSPs, setting out its assumptions used for escalating costs over the regulatory period.

In general, SunWater has adopted the mid-point of the target range for the Reserve Bank of Australia (2.5%) as the assumed rate of inflation when forecasting costs. This is consistent with standard regulatory practice, including by the QCA. [25]

The revenue requirement for each bulk water scheme and distribution system has been expressed in real terms in NSPs. This means that input costs that are forecast to increase in line with inflation will be presented as having no increase over the regulatory period, in real terms.

5.2 Price indexation

SunWater's preference is for prices to be set in real terms, and indexed in line with actual inflation given the difficulties in accurately forecasting inflation rates over a five-year regulatory period.

Price indexation requires the selection of an appropriate index measure. Given the purpose of this indexation is to maintain prices in real terms – that is in line with the purchasing power of money over time – a general index showing the movement in prices across the economy should be used. The Consumer Price Index (Brisbane) continues to be a reasonable index for this purpose.

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[25] For example, refer to Queensland Competition Authority. *Final Report: Gladstone Area Water Board: Investigation of Pricing Practices* (June 2010). pp141-142

SunWater's proposed position

SunWater submits the mid-point of the target range for the Reserve Bank of Australia (RBA) should be used as a general measure of forecast inflation into the future, while acknowledging that forecasts for certain input costs may be at a higher or lower rate where there is evidence to support this. SunWater's cost forecasts used for its NSPs are set out in a separate background paper.

SunWater also submits that prices should continue to be set in real terms, and indexed annually at the actual rate of inflation. The Consumer Price Index (Brisbane All Groups) should be adopted, consistent with current practice.

6 Approach to the treatment of free allocations

As set above, SunWater submits that fixed bulk water costs should be recovered through fixed charges levied against the total WAE in each water supply scheme. However, there are certain instances where this not appropriate as WAE has arisen as a legacy compensation arrangement - essentially a precondition for the development of the scheme.

The PWC issues paper examines this issue, which relates to the Burdekin-Haughton and Barker-Barambah schemes in particular.

6.1 Principles

The PWC issues paper considers two scenarios, namely where free water allocations arise from a government decision, and where they do not. Alternatively, these same scenarios can be characterised as:

- legacy contractual arrangements - where agreements were struck at arm's length on a commercial basis with particular water users. In some cases, free water might have been provided in exchange for benefits such as donated assets or up-front contributions.
- compensation arrangements for the development of a storage – where an entity held a pre-existing right to water which needed to be preserved, as a condition of the storage development or otherwise as a legislative or policy requirement.

For legacy contracts the commercial arrangements should remain and SunWater is not seeking to recover any shortfall from other users.

For compensation arrangements, the free water allocations provided should be considered a cost of the development of the scheme and recovered from other users. This is similar to the dam owner compensating the owners of pre-existing infrastructure such as roads, rail and powerlines that would be inundated by the dam, so they were no worse off. Just as these compensation costs for third-party infrastructure are included in the cost base for water prices, so should the costs associated with preserving the rights of pre-existing entitlement holders, where there was a legal obligation to do so.

The key criterion is whether or not the free water allocations were provided as compensation arrangement for the development of the water supply scheme, and consequently a cost to that scheme. This should be applied as the test to determine whether costs should be assigned to those WAE in calculating tariffs for irrigation customers.

6.2 Application

In applying the above test, it is clear that the South Burnett Regional Council (SRBC) held a pre-existing right to water that was to be preserved as a condition of

constructing Bjelke-Petersen Dam. While there would have been a negotiation between State and local government about the quantum of this pre-existing right, the 1985 Order in Council (OIC) clearly sets aside a volume in recognition of this right. The negotiation would have centred around agreeing the volume required so that the council was kept whole (no worse off) as a result of the dam development.

Similar negotiations occurred between the State Government and the North and South Burdekin water boards to satisfy the boards that they were no worse off as a result of the development of Burdekin Falls Dam. Clearly, both boards would have been worse off if they had to start paying additional charges for water they currently received. Hence this negotiation was to agree arrangements that made the boards no worse off, in particular establishing the amount of free allocation to be preserved. This was acknowledged in the PWC issues paper, which described the arrangements, as set out in an OIC as follows:[26]

> *Following the construction of Burdekin Falls Dam, an agreement was made between the then Water Resources Commission in 1991 regarding charging arrangements for water supplied from Burdekin Falls Dam. These arrangements allowed the boards to receive at least 185,000ML per annum as a 'free' allowance... This agreement was in recognition of the capacity of the Boards to divert river flow prior to the Burdekin Dam being built and the water required to achieve the natural resource management objectives outlined in the OIC.*

While the agreement itself may not have been struck until after construction of the dam, it still related to the rights that pre-existed the dam and ensuring the boards were no worse off.

It might also be argued that the State Government was under no legal obligation to enter into such arrangements given the nature of the rights held. However, the fact remains that these free allocations were the outcome of a policy position in relation to those users. This is distinct from an arms-length, commercial agreement with a user whereby free water may have been provided in exchange for other benefits (eg a contributed asset).

SunWater's proposed position

SunWater submits that the key criterion is whether free water allocations were provided as compensation arrangement for the development of the water supply scheme, in which case they are a legitimate cost to that scheme. Such compensation arrangements typically arise where a user had a pre-existing right, and a government

[26] PWC, p99

policy decision was taken to preserve that right or ensure the user was no worse off following construction of a dam.

In applying this principle, it is clear that both the SBRC and North and South Burdekin water boards receive free water allocations as a result of a compensation arrangement, as distinct from a commercially-negotiated water supply agreement.

Accordingly, these free water allocations should be considered as a 'cost' to the scheme, and no costs should be allocated to these free water allocations when setting prices to other users.

7 Conclusion

The tariff issues paper canvasses a range of tariff and related issues. More recently, the Government's revised referral notice changes the context for some of these issues and how they are to be dealt with in the QCA's pricing review.

There are a number of tariff reforms that are critical for achieving the objectives of the QCA's review, particularly the structure of tariffs.

SunWater has also highlighted the need to unbundle tariffs in distribution systems, and has nominated tariff groups accordingly in its NSPs.

This submission has also responded to the issues raised for recreation management costs, forecasting water use, price and cost escalation and treatment of free allocations. SunWater has proposed arrangements that are grounded in precedent and align to industry practice or past and present Government policy positions.