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22 March 2002

Mr Rick Stankiewicz
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Queensland Competition Authority
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Dear Mr Stankiewicz

SUBMISSION IN RELATION TO ASSESSMENT OF PRICING MATTERS IN THE BURDEKIN HAUGHTON WATER SUPPLY SCHEME

Thank you for the opportunity to make a submission to the Authority in respect of its assessment of pricing matters in the Burdekin.

SunWater's submission relating to the Authority's terms of reference (items one and two) pertains to four issues:

1. Whether payments for land and water allocations and sugar mill levies should be treated as capital contributions, and the pricing effects of these transactions;
2. Whether funds provided by the State and Federal governments constitute capital contributions, and the appropriate treatment of such payments for pricing purposes;
3. Asset valuation issues and the relevant asset base; and
4. The appropriate weighted average cost of capital for the Burdekin Scheme.

Section 5 of this submission examines factors to be considered in determining the appropriateness in charging a rate of return in the context of the Authority's term of reference four.

In making this submission, SunWater recognises that in the context of prices for rural irrigation water users in the Burdekin, the Government sets the policy in relation to the level of cost recovery, including rate of return.

The Government issued a Direction to SunWater (6 October 2000) setting out the prices to be charged for the delivery of water entitlements to rural irrigation water users. SunWater has charged in accordance with this Direction.

However, the Authority's investigation addresses significant commercial issues for SunWater, most notably the principles underpinning its regulatory asset base and its weighted average cost of capital used for commercial pricing. SunWater's submission is largely focussed on these issues, as they also have implications for SunWater's regulated business activities that fall outside the Pricing Direction.

The Authority's investigation also includes conceptual and historical consideration of the pricing and regulatory treatment of water entitlements. As an owner of water entitlements, SunWater wishes to put forward its views to ensure an orderly and rational development of a water entitlement market in accordance with Council of Australian Governments (COAG) principles.

SunWater does not seek any part of this submission to be held confidential by the Authority, but requests that the Authority only publish its submission when all submissions expected to be made have been received.

1. CAPITAL CONTRIBUTIONS

The Industry Commission's (IC) reports on *Water Resources and Waste Water Disposal (1992)* and *Taxation and Financial Policy Impacts on Urban Settlement (1993)* assumed that all assets, including those contributed by customers, would be owned by the water authorities. The IC recommended that when calculating capital charges, water authorities' asset bases should include assets provided by developers or funded through developer charges. However, the rate of return earned on those assets should be refunded to customers in new subdivisions in the form of lower charges for water services.

The report of the COAG Expert Group on Asset Valuation Methods and Cost-Recovery Definitions for the Australian Water Industry (1995) also assumed that all assets, including those paid for by customers, would be owned (that is, identified in their accounts) by the water authorities. Whilst the Expert Group supported the setting of such charges to fully recover all costs of water services to new customers, it did not make specific recommendations as to past contributions.

The Authority's Draft Report of its investigation of Pricing Practices for the Gladstone Area Water Board recommends:

> "*That capital contributions be recognised where there is evidence that the contribution was made with the intent of obtaining future price benefits – unless there is evidence that the contribution was a pre-payment for services, returned through explicit pricing arrangements or, applies to assets that have since been consumed or replaced*" (58).

In its review of Queensland Rail's (QR) draft undertaking, the QCA took a legalistic approach to the issue of past contributions, determining that past contributions should only be recognised for a claimant who could demonstrate that recognition beyond the existing contractual arrangements was justified by way of documentary evidence, in which case specific adjustments would be made to access charges.

SunWater asks the Authority to provide a consistent approach in its treatment of contributed assets to its past decisions. To do otherwise would create regulatory uncertainty and confusion. If the Authority is considering moving away from these precedents in its investigation for the Burdekin Haughton Scheme, SunWater would be pleased to make a more detailed supplementary submission in relation to contributed assets.

The particular issues in relation to the Burdekin Haughton are examined below in the context of the above treatments of contributed assets by the Authority.

1.1. Land Purchase

Some 187 farms were sold by public auction or ballot, realising total revenue to Government of $91.3 million.[1] Purchasers of farms received in consideration for this payment:

- Freehold[2] land capable of irrigation;
- A water entitlement[3];
- Access to the farm via constructed roads;
- Concessional finance (for most lots offered); and
- Cane assignment (for some lots)

The purchaser of the land also entered into a supply arrangement for the delivery of water to the farm. This supply arrangement took the form of a licence under the *Water Resources Act 1989*[4]. Supply arrangements are now embodied in a standard contract approved by the Minister under the *Water Act 2000*.

SunWater is of the view that money paid for the purchase of land was simply a commercial transaction to purchase tradeable assets (i.e. freehold land and a water entitlement). It is quite clear that the purchaser received the benefits of their payment in the form of these assets and it can be assumed that the prudent purchaser would not have paid more for the assets than could have been realised in the market place in subsequent sale[5].

In the context of the criteria for determining a contributed asset, the issue therefore becomes one of whether there was any documented intention or promise for future benefits from the purchase of land, in the way of reduced prices for the ongoing water delivery charges.

SunWater has reviewed the documentation and contracts surrounding the land auctions, and cannot find any basis to conclude there was any documented or implied intent or commitment for any particular set of water and drainage charges to apply beyond the year in which the farms were purchased. Given the construct of the regime for setting water charges over the period, SunWater can see no legal constraint on future water charges arising from any auction documentation or contracts.

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1 Including water allocations sold with farms at auction. Only revenue from water allocations sold separately to land (from the Ballot onwards) has accrued to SunWater. Other revenue has passed to the State through the Department of Natural Resources and Mines.

2 Most land was purchased under Auction Purchase Freehold title.

3 In the form of a licence under the *Water Resources Act 1989.*

4 The initial auctions were prior to the Water Resources Act 1989, however the statutory arrangements for supply (i.e. through a licensed authority) were the same.

5 Recognising that the value of the water entitlement was incorporated into the value of the land, where land and water entitlements were sold together. Whilst trading is not currently in place in the Burdekin Scheme, the purchaser of land was able to realise the value of their water entitlement through the sale of their land with the licence attached to it.

Therefore, SunWater is of the view that the land sales for the scheme do not constitute capital contributions on the basis that there was no intention for a future benefit through reduced delivery charges. Furthermore, the benefit (or consideration) to the purchaser from this transaction was to obtain title over an asset (being land and a water entitlement).

This argument is supported by the fact that the same charging regime for water deliveries has applied to:

- farms sold at auction;
- farms retained by original landholders in the resumption process; and
- farms supplied with granted water allocation with no land transaction (eg. farms in the "old" irrigation area, or extensions to the new scheme).

If a future benefit was intended to be derived from the purchase of land, SunWater believes the charging regime would have provided differentiated prices for the above group of people. In conclusion, SunWater believes the consideration for payment for land was the land itself, not a future benefit in relation to ongoing delivery charges.

1.2. Water Allocation Sales

Water allocations were sold to landholders in five ways:

- As part of settlements for land resumption;
- Attached to land purchased at auction (up to the Ballot);
- Purchased separately to the price bid for land (for sales after the Ballot);
- Sold directly to existing landholders; and
- Granted free to existing landholders[6]

The terminology used to explain the purchase of water entitlements forming part of resumption settlements, particularly in the 1980s, was "headworks contribution".[7] Other descriptions for the payment to secure a water entitlement included capital charges and nominal allocation charges.

However, the terminology used to describe the payment should not be the sole basis upon which to decide whether such payments formed capital contributions in an economic and regulatory sense. SunWater believes the critical test, as indicated by past regulatory decisions, is whether there was any documented intent to provide any future price benefits from this payment.

SunWater believes there is no evidence that such payments were made with the documented or implied intention in relation to future prices. If such indications were made, this would have created a policy dilemma at the time in relation to differential prices for those people who had purchased water, and those who had water entitlements granted to them. SunWater has only found contrary statements made at the time, that purchased water entitlements were to rank equally with granted water entitlements in all respects, including priority of supply and prices.

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6 For example, granted to landholders in the "old" irrigation area as an increase in allocation, following completion of Burdekin Falls Dam.

7 Refer to various Land Development Policies sent to landholders in the 1980's.

Furthermore, the consideration received for the payment of nominal allocation charges was an asset in the form of a water entitlement. This value of this asset was manifest in the value of the land to which it is attached (prior to a water trading environment) or in the entitlement itself (post water trading environment)[8]. As such, the consideration for this purchase was not future price benefits, but a specific asset in the form of a water entitlement[9].

SunWater believes the Authority's deliberations in relation to treatment of water allocations may have a fundamental bearing on the way water entitlements are valued and traded into the future. It is critical that the value of water entitlements be separated from the water delivery charges to enable a robust and workable market in water entitlements to develop, and hence realise the economic benefits to be gained.

To address this issue, SunWater has engaged Network Economic Consulting Group (NECG) to prepare an analysis of the implications of the unbundling of tradeable water entitlements (TWEs) from land and water delivery arrangements. This is attached to this submission as Appendix 1.

This analysis demonstrates that the TWE itself is of value irrespective of service delivery charges. This applies whether service delivery charges are zero (for example, in an unregulated system[10]), at the Lower Bound, the Upper Bound or somewhere in between.

There should be no confusion between the determination of infrastructure charges for service delivery in accordance with the pricing policy of the day, and the value of the water entitlement that is influenced by a range of issues, of which infrastructure charges are but one factor.

1.3. Sugar Mill Levies

Sugar mills were charged levies on production associated with sugar cane grown under "peak" assignment within the irrigation area[11]. These charges were levied to relevant mills in the Burdekin district under the *Water Resources Act 1989*.

Section 117 (2) of the *Act* states:

> *"Assessments made and levied … must be applied towards the costs of operation, maintenance or administration and as a contribution towards capital costs with respect to the supply of water to or the drainage of the land in question from works constructed by the corporation…."*

The legislation does not contemplate the application of sugar mill levies as a capital contribution, rather as contribution towards the basket of costs associated with the delivery.

The 1980 Report to Parliament that proposed the Burdekin scheme also addressed revenues from sugar mill levies. In this context, sugar mill levies were viewed as one source of revenue

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8 It is noted that trading of water entitlements has not yet been implemented in the Burdekin scheme under the *Water Act 2000.*

9 Whether manifest in the entitlement itself, or as part of the land value to which the entitlement was attached.

10 Recognising that there are costs to the water user associated with their own water delivery infrastructure such as on-farm storages.

11 An irrigation area was a defined area, under the *Water Resources Act 1989.*

to recover all costs of the scheme, including operation and maintenance costs and a return on capital.[12]

In paying the levies, sugar mills were not given an expectation that they would receive future price benefits for the delivery of water. Furthermore, no price benefit was incorporated into charges for mills that pay the levy and take water from the scheme.

SunWater believes there is no evidence of any commitment to set lower charges for landholders producing cane under peak assignment[13] as a consequence of this levy apart from the extent to which levies contributed to the basket of operation, maintenance, administration and capital costs of the scheme.

If the levy were intended to be a capital contribution and result in lower charges for water users, a differential pricing regime would have been established between:

- landholders growing cane under peak assignment;
- landholders growing cane under other assignment; and
- landholders growing crops other than cane.

There has never been a differential pricing regime based on the above. Furthermore, when sugar mill levies were abolished through the Water Reform Unit's price path process, the revenue shortfall (or part thereof) was gathered through all water users rather than those customers growing cane.

2. STATE AND FEDERAL FUNDING

Several of SunWater's assets were funded in part by Commonwealth Government grants to the State. The Water Reform Unit considered that assets funded by these grants legitimately formed part of SunWater's asset base for pricing purposes. Similarly, the Queensland Competition Authority in its *Statement of Regulatory Pricing Principles for the Water Sector*[14] stated:

> *"The appropriate approach to regulatory recognition of capital subsidies, depends, largely on the purpose of the grant… In the absence of any specific agreement or agreed purpose, or evidence to suggest that a particular outcome was intended, the treatment of past and future grants should be at the asset owner's discretion."*

Consideration is therefore required as to the purpose of the Commonwealth Government grant provided to State for the purpose of developing Burdekin Falls Dam. SunWater has reviewed its records of documentation between the State and Federal Government for the funding of Burdekin Falls Dam, and can find no evidence that the purpose of the Federal Government grant under the *National Water Resources (Financial Assistance) Act 1978* was tied to any particular purpose other than construction of Burdekin Falls Dam and associated infrastructure.

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12 The 1980 Report demonstrated to Parliament that the scheme was able to provide a return on capital.

13 Or for that matter, any landholders or customers.

14 Queensland Competition Authority (2000) *Statement of Regulatory Pricing Principles for the Water Sector*, page 40.

Furthermore, SunWater has found no evidence from either State or Federal Government funding that a particular outcome in relation to ongoing water charges was intended in the provision of funding.[15]

SunWater submits that assets funded via Commonwealth Government grants to the State should form part of SunWater's asset base.

Further justification for this approach is provided by Australia's system of public finance under which there is a mismatch between the Federal Government's taxing powers and the State Government's spending responsibilities, known as vertical fiscal imbalance. Commonwealth Government grants provide a significant source of funding for all State Government programs.

In this light, it can be seen that Commonwealth grants for specific purposes merely form part of the State's overall funding base. In this case, the specific purpose of the grant was to provide funds to the Queensland Government to fund the Burdekin Falls Dam without impacting on other State programs. Accordingly, it is appropriate that the assets funded by these grants form part of the equity of a Government Owned Corporation. Indeed, if the Commonwealth had intended to confer a benefit directly upon particular users or a group of users in a region, it would have arguably chosen a different vehicle to that of State Government funding.

3. ASSET VALUATION ISSUES

The regulatory treatment of SunWater's asset base is a significant issue for SunWater, both in the context of the Burdekin Haughton investigation and in a wider context for SunWater's regulated services in other schemes, particularly for supplies that fall outside the Pricing Direction.[16]

Arthur Andersen were engaged by the Department of Natural Resources to provide an independent review of a depreciated optimised replacement cost (DORC) value for all of SunWater's infrastructure and property assets. SunWater has provided a submission on three major issues below. If the Authority wishes to investigate other issues relevant to the asset base, including a review of the Arthur Andersen valuation, SunWater would be pleased to make a supplementary submission.

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15 The 1980 Report to Parliament demonstrated to Parliament the robustness of the development proposal in financial terms, including that it would achieve some return on capital. The anticipated return on capital was used to highlight this point, and was not a desired target for cost recovery.

16 Such as negotiations with industrial users for new supplies, or negotiations for new charges with local governments in accordance with SunWater's charter.

3.1. Appropriateness of Depreciated Optimised Replacement Cost (DORC)

For water infrastructure there is a number of possible asset valuation approaches ranging from a number of cost based approaches to a range of value-based approaches[17].

COAG has endorsed deprival value as its preferred approach to valuing network assets and by ARMCANZ as a basis for water pricing, unless specific circumstances justify another method. Under the optimised deprival value (ODV) method, the value of an asset is defined as the loss that might be expected if the entity was deprived of the future economic benefits of that asset, or alternatively an amount that represents the loss of service potential flowing from the asset.

As noted by the QCA in its draft decision on Gladstone Area Water Board[18], value based approaches typically require a significant amount of information and, in a regulatory context, are affected by the problem of circularity - where the asset value is determined by (regulated) prices and revenues which, in turn, are based on the asset value. More specifically, two key issues need to be considered before economic value can be considered as an appropriate method of valuation:

- firstly, whether the Net Present Value (NPV) of revenues is less than DORC because the customers using the asset are not able to pay DORC values; and
- secondly, whether the NPV of revenues is less than DORC because prices are regulated.

In the former, the implication is that the infrastructure provider would not replace the assets when exhausted, and would stop providing services to the customers in question at that time. Such a situation is only likely to arise where substantial assets are dedicated to one or just a small number of customers and customer service obligations may be required to ensure service delivery. While such a situation may arise in asset stranding situations (eg. for infrastructure serving a mine that prematurely ceases operations), this is not the case for the services provided by water storage and distribution infrastructure owned and operated by SunWater in the Burdekin Haughton Water Supply Scheme.

In its draft decision on Gladstone Area Water Board, the QCA noted the impracticality of using ODV (p47):

> *"The issue of circularity with respect to product price, rate of return and asset value when applied to monopoly markets effectively rules out the use of net present value or economic value approaches to asset valuation. There is a risk of under-statement of asset value and considerable subjectivity in determining Economic Value (EV). The inherent difficulties of EV mean that the ODV method is also impractical."*

SunWater endorses this statement. Moreover, the issue in the case of SunWater's assets is particularly acute on account of the price paths that were established by the Pricing Direction. This highlights the inappropriateness of the adoption of a circular method of asset valuation such as economic value. Indeed, the only basis for the application of economic value is that users' capacity to pay for infrastructure services is below that implied by a DORC valuation, in which case, asset valuation should be a residual of the pricing process rather than a driver

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[17] The QCA sets out a full description of possible options in its Statement of Regulatory Pricing Principles for the Water Sector, December 2000, pp 32-33.

[18] QCA draft decision, Gladstone Area Water Board, Investigation of Pricing Practices, November 2001, p47.

of it. In other words, in such a case, economic value is not a driver of the pricing process (in a building block sense), but an outcome of it.

The QCA also noted a general move by Australian regulators to adopt DORC as the preferred method for valuing utility assets, and concluded that DORC should be used for establishing initial asset values for GAWB as it sets a maximum that a sustainable business would achieve in a competitive market[19].

SunWater agrees with the QCA's approach, noting in addition that DORC has four main characteristics that commend it over other valuation approaches:

- it supports operating capability maintenance, in that it allows the company just sufficient funds to maintain its operating capability;
- setting DORC in respect of sunk assets reduces the scope for regulatory risk;
- provides a basis for a valuation of DORC that is compatible with future investment by the infrastructure owner; and
- it provides a basis for prices that avoids inefficient bypass.

3.2. Prudency of Design

There were many parameters that were analysed for the development of the Burdekin Haughton scheme such as channel design, flow control systems, and pumping station standards. A Value Engineering approach was adopted to minimise the life cycle costs, taking into account:

- capital investment and ongoing operation, maintenance and refurbishment costs;
- service standards[20] expected by the majority of customers; and
- the long-term nature of the infrastructure.

In the case of major pumping stations supplying the majority of the channel system, the first station was built as a conventional dry well pumping station. Adopting the Value Engineering philosophy resulted in an innovative design for the later four pumping units that utilised an encapsulated (submersible) pumping station that saved millions of dollars over conventional arrangements. This design was recognised in State and National awards at the time.

Issues related to channel design are examined below.

3.2.1 Channel Design

The channel design parameters were selected following advice from local irrigators, and were confirmed following a series of detailed Value Engineering studies that addressed a range of aspects. There were several significant parameters chosen in selecting the most prudent and efficient design for the scheme. One parameter was the consideration of the design flow levels of the channels compared with the natural surface level at the high point of the farm being served. Major factors considered in this parameter were:

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19 Ibid, p47

20 For example, interruptions to supply from unplanned events.

- The provision of command (head)[21] for farms;
- Maximising delivery efficiencies and minimising losses through, for example, channel seepage; and
- Minimising adverse resource impacts from seepage, such as raising water tables.

These are considered in turn below.

- ***Provision of Command for Farms***

During the design phase of the scheme development, an advisory body, the Farm Inspection Committee, was constituted to give advice on all aspects of scheme design relating to the development of the farms and their associated services, and to endorse the proposed blocks prior to their release as viable farming units.

The group contained three farmer representatives, nominated by the local industry bodies, a banker, a soils expert, and a sugar expert. This body examined the question of command to farms on many occasions, and it was unanimous in its advice that sufficient command for gravity irrigation was to be provided to all blocks if at all possible. This supported the adoption of a design that provided, where possible, a minimum level of command[22] to farms.

The alternative model of constructing sunk channels with the flow level below natural surface increases the costs to the landholder for diverting water on-farm for pumping water to achieve the required head for on farm distribution.

- ***Delivery Efficiencies and Resource Impacts***

The Burdekin Floodplain has areas of relic lighter textured alluviums, where the seepage from unlined channels would, over a large area, present a hazard to regional groundwater through rising water tables. Furthermore, due to sodicity of the soil, the excavated material is generally not directly suited for use as farm levelling material. Disposal of the excavated material on farm involves double handling to bury it beneath the crop root zone, involving considerable expense.

The consequence of these factors was that lining of channels was required in order to achieve reasonable distribution efficiencies and minimise adverse groundwater impacts. The lining of channels at or above natural surface is far less expensive than lining channels that are sunk below this level[23]. Sunk channels require extensive double handling in over excavation and replacement of suitable material in order for effective lining to be achieved.

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[21] Command or head is effectively the pressure at which water is supplied. The provision of command relieves the need to pump. In simplistic terms, command can be provided by having the level at which water is taken above the level at which it is to be used.

[22] Being 450mm

[23] Taking into account the need to line some areas, it is demonstrable that the optimum cost solution for earth channel construction was for the design flow level at or just above natural surface. In the light of demands from prospective landholders[23] for command from the channel system, a design targeting 450mm of command was adopted[23]. The variables of soil type, surpluses available from adjacent catch drain and drainage network excavation, and structure locations also dictated the detail of the optimum solution for each situation in order to achieve optimum cost effectiveness.

- ***Drainage***

The choice of channel design was made in the context of broader water management including drainage. The selected design for the supply and drainage systems was for the channels to remain functional and protected by the drainage facilities (up to design events). This was preferred to having channels in the ground, which would merely fill up and aid overland flows in times of significant rainfall, without the addition of levee banks similar to that formed by the banks of the channels.

3.3. Third Party Assets

The development of the Burdekin scheme included expenditure on a number of assets and items that do not form part of SunWater's asset base. SunWater is of the view that there is an argument for including these expenditures where they were necessary when considering pricing issues. These costs to be considered include the road from Mingela to the Burdekin Falls Dam and the road network servicing the irrigation farms. These assets are now owned by Dalrymple Shire and Burdekin Shire respectively and do not appear in the asset valuation reviewed by Arthur Andersen. It should be noted that SunWater does not believe that Arthur Andersen took a particular view as to whether such assets *should* have been included in the DORC valuation, as their review was limited to assets on SunWater's asset register at the time.

In its previous regulatory decisions, the Authority has recognised that expenditure on assets owned by third parties should be incorporated into the asset base for pricing. For example, in its decision for QR's Access Undertaking, the Authority incorporated an allowance for costs incurred by QR in altering assets owned by third parties in developing its rail network.

In its draft investigation of pricing practices for the Gladstone Area Water Board, the Authority recommended that relocation costs associated with third party assets (such as rail lines) be included in the asset base.

SunWater submits that the expenditure for the road from Mingela to Burdekin Falls Dam should be included in the asset base for pricing purposes. The expenditure on this road was essential for the construction of the Dam. Similarly, construction to bitumen standard was required to minimise the risk of delay in critical materials to site from adverse weather conditions, and for safety reasons for people living at the construction site.[24] The costs associated with maintaining the road are borne by Dalrymple Shire.

In relation to the road network servicing irrigation farms, SunWater believes this expenditure should be accounted for and recognised, but does not form part of the asset base for the purposes of determining an Upper Bound price. These roads were essentially part of the land development and subdivision of farms, and should be viewed as an expense in that context to be offset against proceeds from the sale of land in the scheme.

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[24] Access essential services was a critical safety issue for the site. Similarly, continuity of supply of construction materials was critical for efficient construction.

4. WEIGHTED AVERAGE COST OF CAPITAL (WACC) CONSIDERATIONS

SunWater engaged NECG to advise on an appropriate WACC for the Burdekin Scheme (see Appendix Two).

SunWater recognises that it is entirely appropriate for Government to decide to require prices to be set at level below a full rate of return. SunWater has recommended this WACC to enable the full commercial rate of return to be determined as an indication of the Upper Bound pricing level for the scheme.

5. FACTORS TO BE CONSIDERED IN DETERMINING THE APPROPRIATENESS OF CHARGING A RATE OF RETURN

One of the most important objectives of the water reform process is to maximise the contribution of water to national income and welfare.[25] This objective involves improving the net social surplus from the water industry's activities:

- in a productive sense – by encouraging efficient practices by water service providers;
- in an allocative sense – by ensuring water is allocated to its highest value uses; and
- in a dynamic sense – by establishing an environment where new investment in water infrastructure is efficient and value-adding downstream investments are encouraged by the enhanced security afforded by water trading.

Infrastructure charging arrangements are likely to influence the realisation of all of these objectives. The QCA Act sets out a number of factors that it is to have regard to when making its decisions. This paper explores some of the factors that may be relevant in deciding on the appropriate basis for the setting of charges for the use of water storage and distribution infrastructure.

5.1. Efficient Resource Allocation

Efficient resource allocation arises in two distinct contexts:

- facilitating water flowing to its highest value uses; and
- recognising the value of the infrastructure for the community.

5.1.1. Distortions From Discounting Infrastructure Charges

Differential infrastructure charges can create distortions that undermine the efficient allocation of water due to:

- differing infrastructure charges for different user classes; and
- differing bases for determining charges for different infrastructure assets in a scheme.

5.1.1.1. Differential Charges for Classes of User

One of the objectives of the introduction of TWEs is to allow the market to allocate water to its highest value use.[26] In this regard, SunWater notes the QCA's position in relation to the public interest in differential charges: [27]

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[25] Clause 5(a) of the COAG 1994 Strategic Framework on water resource policy.

> "*The Authority considers that there is an economic case for, and the public interest is better served by, charging all users who place similar demands on the common infrastructure of the network system similar prices. Any differences between individuals' prices should only reflect differences in their use of the monopoly infrastructure (dams, pipelines and treatment plants) and any commercial differences (eg. quantity demanded, long-term vs. short-term contracts and the like).*
>
> *Such an approach is consistent with the outcomes in competitive markets, the benchmark against which monopolists' activities are assessed. Furthermore, the Authority considers that the community's interests are best served by diverting water resources to their highest valued use."*

Infrastructure charges for services provided by SunWater's assets for users other than those set by Government for rural irrigation water are negotiated on commercial terms at prices reflecting upper bound rates, subject to monopoly prices oversight[28].

Accordingly, this differential infrastructure charging could affect the efficient allocation of water. In this regard, SunWater notes the QCA's position in relation to GAWB:[29]

> *"Water is a resource with few, if any, substitutes and, in any particular region, few alternative economic sources of supply and the community's interests are best served by directing resources to their most valued use."*

SunWater believes that the QCA should have regard to the impact of differential infrastructure charges on the efficient allocation of water, but also have regard to the capacity to pay between user sectors.[30] Whilst it is not in the interests of SunWater, users or the community to price water beyond the capacity of users to pay, it is important to consider the relevant use(s) for such analysis. For efficient pricing, the QCA may need to consider high value uses rather than lower value uses where there is are demonstrable alternatives for the use of that water in a scheme[31].

5.1.1.2. Charges for New Infrastructure

Clause 3(d)(iii) of the 1994 COAG Strategic Framework states in relation to rural water supply:

> *"That future investment in new schemes or extensions to existing schemes be undertaken only after appraisal indicates it is economically viable and ecologically sustainable."*

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26 Clause 5(a) of the CoAG 1994 Strategic Framework.

27 QCA (2001) Draft Report *Gladstone Area Water Board: Investigation of Pricing Practice* p3. At best, the situation will lead to a transfer of wealth between classes of user through arbitrage induced by differential infrastructure charging.

28 Where such services have been declared as Government monopoly business activities.

29 Ibid, p41.

30 This point is discussed in more detail in section 4.2 of the *Unbundling and tradeable water entitlements* paper.

31 For example, different crops or alternative uses other than irrigation.

The National Competition Council has interpreted[32] economic viability to mean that all new rural investments should have the potential to recover all direct costs, namely:

- administration, operations and maintenance;
- cost of capital;
- externalities (e.g. contribution to salinity control programs);
- taxes or tax equivalent regimes (TERs); and
- provision for asset consumption.

Accordingly, the NCC's interpretation of the COAG 1994 Strategic Framework means that to comply, the services provided by new infrastructure, whether public or private, will be priced at upper bound rates (unless a fully disclosed Community Service Obligation arrangement is established with the service deliverer).[33]

This could mean that different approaches could apply to the determination of infrastructure charges in a single scheme depending upon when infrastructure was built. In other words, the *same* class of user *within* a scheme could pay charges calculated on entirely different bases if the infrastructure is constructed at different times. [34]

SunWater believes that the QCA should examine the impact of such potential inconsistency in infrastructure charging within a scheme recognising that many schemes will over time incorporate new infrastructure.

5.2. Value of the Investment to the Community

The current replacement cost of SunWater's water storage and distribution infrastructure in Queensland is in the vicinity of $2.7 billion. Accordingly, obtaining an appropriate level of economic benefit for Queensland taxpayers and the Queensland economy through charges, taxation or a mixture of both is a significant issue.[35]

In the Australian context, estimates of the marginal (efficiency) costs of raising taxes have been estimated at approximately 20% of revenue raised.[36] These estimates do not include an allowance for collection and compliance costs associated with the operation of the taxation system which is itself significant.[37]

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[32] National Competition Council, Background paper on new investment in rural water infrastructure, February 2001, p 2.

[33] National Competition Council, Background paper on new investment in rural water infrastructure, February 2001, p 2.

[34] After appropriate adjustments to prices for contributed assets where warranted.

[35] Whilst it is true that the Commonwealth Government has been a significant contributor to various schemes, these contributions were paid to the State Government and hence form part of the Queensland Government's historical investment in the infrastructure.

[36] Findlay, C C and Jones R L, (1982), "The Marginal Cost of Australian Income Taxation", *Economic Record* 58(162), 253-62; and Campbell, H and Bond K (1997), "The Cost of Public Funds in Australia", *Economic Record*, 73 (220), 22-34 respectively estimated that the marginal efficiency costs were between 23% and 26% and 18% of the revenue raised. See also Diamond P A and Mirrlees J A, 1971, "Optimal Taxation and Public Production II: Tax Rules" *American Economic Review* 61:261-78; Stiglitz J E, and Dasgupta P, 1971: "Differential taxation, public goods, and economic efficiency", *Review of Economic Studies* 37-2:151-174, Atkinson A B and Stern N H, 1974, "Pigou Taxation and Public Goods", *Review of Economic Studies*, 41:119-128.

[37] An early estimate of the collection and compliance costs was 13% of the revenue raised (Pope *The Compliance Costs of Major Taxes in Australia*, Curtin University, 1994).

To the extent that the State Budget has a requirement for a given level of revenue from the tax base, the choice of revenue source can affect the economy and the wellbeing of Queenslanders. In particular, other things being equal, the economic wellbeing of Queenslanders as a whole will be advanced where revenue sources are utilised that impose minimum efficiency costs on the economy.

SunWater believes that the QCA should have regard to the public benefit of recognising the value of the investment embodied in water infrastructure in considering charges for the services provided by that infrastructure.

5.3. Need to Promote Competition

Approximately 50% of water utilised for consumptive purposes in this State is sourced using privately funded infrastructure – whether from bores or private dams used to harvest water under licence.

Any investment in privately funded infrastructure will be undertaken on the basis of securing an adequate return on the investment, after consideration of any subsidies for such infrastructure investment from Government. Accordingly, to the extent that infrastructure charges for one class of infrastructure do not incorporate such a return (after accounting for any explicit subsidies for private development), competition both in relation to the provision of infrastructure (as between public and private) as well as in downstream industries reliant upon water could be distorted.

SunWater believes that the QCA should have regard to the promotion of competition between private and public sources of water storage and distribution infrastructure as well as downstream industries reliant upon water in the context of charges for State-owned water assets.

5.4. Protection of Consumers from Abuses of Monopoly Power and the Legitimate Business Interests of Users and Potential Users

5.4.1. Protection of Consumers From Abuses of Monopoly Power

In its draft report for the GAWB, the QCA indicated that the prices that would be expected to prevail in a competitive market were sufficient to protect the interests of consumers from abuses of monopoly power. These prices were set at a level consistent with the earning of a commercial return on an asset base determined in accordance with the DORC methodology. SunWater believes that these considerations are also relevant to a consideration of the charges for the use of water storage and distribution infrastructure.

5.4.2. Legitimate Business Interests of Users and Potential Users

In practice, there are many factors that will influence the price paid in the market for a TWE and land use decisions regarding production. These factors are similar to those that determined the market price for land when water allocations were not separable from the land. One factor amidst many that is likely to affect business decisions by landholders relates to expectations about future infrastructure charges.

SunWater believes that the QCA should have regard to the desirability of certainty of future infrastructure charges for water users.

5.5. Legitimate Business Interests of Water Provider

The QCA, in its draft decision on the assessment of QR's draft undertaking provided the following guidance as to the interpretation of QR's legitimate business interests:[38]

> *"The QCA's consideration of QR's legitimate business interests took account of QR's obligations to its shareholder, the Queensland Government, in relation to its financial performance. This included the need for QR to recover the efficient costs incurred in providing services over the expected lives of the assets employed and to earn a risk-adjusted rate of return on the value of those assets. Some of QR's financial obligations take the form of specific financial requirements, such as rate of return targets and prescribed dividend-payment ratios."*

The QCA listed several other considerations, including not disadvantaging QR's above rail business from competing with third party operators. These considerations are similar to those outlined by the Australian Competition and Consumer Commission in its guide to access undertakings under the corresponding Commonwealth legislation: [39]

> *"The Commission will take into account the provider's obligations to shareholders and other stakeholders, including the need to earn commercial returns on the facility. It will also aim to ensure that any undertaking provides appropriate incentives for the provider to maintain, improve and invest in the efficient provision of the service."*

SunWater believes that the QCA should have regard to these factors in considering water future infrastructure charges for water users.

5.6. Efficient Cost, Rate of Return and Inflation

SunWater notes that the effect of inflation is specifically factored into the QCA's methodology for ensuring revenue adequacy. SunWater also notes that efficient lower bound costs were addressed by the Water Reform Unit in developing price paths for rural irrigation water. These elements must underpin any determination on rate of return issues.

5.7. Impact on the Environment and Demand Management

Infrastructure charges represent the cash cost of water to a user.[40] As such, infrastructure costs may influence the incentives of users to pursue measures that improve water efficiency. SunWater believes that the QCA should have regard to the capacity of infrastructure charges to encourage water efficiency in considering future infrastructure charges for water users.

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38 QCA, *Draft Decision on QR's Draft Undertaking*, December 2000, p43.

39 See, generally, ACCC (1999): Access Undertakings – A guide to Part IIIA of the Trade Practices Act, at p. 4..

40 Even though, in an environment of tradeable entitlements, such a signal does not necessarily reflect opportunity cost. In practice, water use may also be affected by cash costs (that is, infrastructure charges) rather than opportunity cost (foregone opportunities to trade water). This may occur due to, amongst other things, income effects, a lack of familiarity with trading arrangements, option values from holding TWEs and transactions costs associated with trading.

5.8. Social Welfare and Equity Considerations

The way in which distributional objectives are pursued, whether through direct measures such as income support or through subsidised infrastructure charging, may materially affect efficient resource allocation and consequently economic wellbeing. Distortions to production and consumption may affect the capacity of the economy to achieve equity objectives being maximised.[41] The Industry Commission (now Productivity Commission)[42], explains:

> *"... the pursuit of economic efficiency is not an end in itself but a means to achieving a more productive economy. This means a greater capacity to do more about social justice, to alleviate poverty and disadvantage through income transfer payments and welfare services and to pursue other community objectives."*

These issues are similar to those noted by the QCA in its draft report on the pricing practices of the GAWB:[43]

> *"There are also equity issues implied by charging different prices to different customers, or charging different prices to existing and new users, for the same product or service."*

SunWater believes that the QCA should have regard to distributional objectives through infrastructure charging arrangements in considering future infrastructure charges for users.

5.9. Socially Desirable Investment or Innovation

SunWater notes the QCA's comments in relation to economic and regional development issues made in the context of the *Statement of Regulatory Pricing Principles for the Water Sector*:[44]

> *"Inappropriately applied third party access could, by providing overly favorable terms to the access seeker relative to the access provider, delay socially desirable infrastructure investments, or alternatively encourage investors to inefficiently 'race' to develop facilities."*

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41 The basic principle is derived from a Tinbergen policy model (refer Tinbergen, J., 1952, *On the Theory of Economic Policy*, North-Holland, Amsterdam) which demonstrates that each instrument of economic policy should be assigned to one, ***and only one***, target.

42 Industry Commission, 1991, *Annual Report, 1991-92*, AGPS, Canberra. See also Posner R, 1971, "Taxation by regulation", *Bell Journal of Economics and Management Science*, 2:22–50 and Harberger A, 1974, "The Incidence of the Corporation Income Tax" in A. Harberger, *Taxation and Welfare*, Little, Brown and Company, pp135-62. This is also reflected in the first annual report of the United Kingdom's telecommunications regulator (OFTEL 1985, *Annual Report*, London, OFTEL):

> *"I should make it clear that I do not think that it would be appropriate for me to seek to impose a balance of prices in a way that was motivated primarily by a desire to achieve some particular redistribution of income amongst members of the community, nor do I think my powers would permit me to do this ... I do not believe, for example, that I could properly put forward a proposal for a rule that all people on low incomes should be given telephones free of rentals; such a proposal would involve arbitrary judgements about matters of income redistribution and my making it would involve the usurping of the proper role of government."*

43 QCA (2001) Draft Report *Gladstone Area Water Board: Investigation of Pricing Practice* p 41

44 QCA, *Statement of Regulatory Pricing Principles for the Water Sector*, December 2000, p94.

SunWater believes that the QCA should have regard to this issue in the context of the Burdekin scheme.

5.10. Economic and Regional Development Issues

SunWater notes the QCA's comments in relation to economic and regional development issues made in the context of the GAWB:[45]

> *"In addition, the Authority concluded that prices differentiated between existing and new users are potentially inconsistent with other matters which the Authority is required to consider under the QCA Act 1997. In particular, the application of differential pricing between existing and new users may have a detrimental impact on regional development to the extent that higher prices for new users would deter investments in the region in the future (when costs are expected to rise)."*

SunWater believes that the QCA should have regard to these factors in the context of economic and regional development issues associated with setting prices for the use of its storage and distribution infrastructure.

CONCLUSION

SunWater looks forward to a clear set of recommendations from the Authority, as the issues under consideration are key to the future management of SunWater's infrastructure and the future success of tradeable water entitlements to realise economic benefits for the State.

Yours sincerely

Peter Noonan
CHIEF EXECUTIVE

Appendices (2)

[45] QCA (2001) Draft Report *Gladstone Area Water Board: Investigation of Pricing Practice* p 41.