INQUIRY INTO REFORM OPTIONS FOR SA WATER'S DRINKING WATER AND SEWERAGE PRICES

Executive Summary

July 2014

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The Essential Services Commission (**Commission**) is conducting an Inquiry into reform options for SA Water's drinking water and sewerage price structures and associated charging arrangements.

The Inquiry is being conducted pursuant to Terms of Reference issued by the Treasurer under Part 7 of the Essential Services Commission Act 2002 (**Essential Services Commission Act**). In conducting the Inquiry, the Commission has the primary objective of protecting the long-term interests of South Australian consumers with respect to the price, quality and reliability of water and sewerage services.

The Inquiry's final findings and recommendations will assist the Government in any consideration of policy options for pricing and related reform and allow and inform public debate on those important issues.

This draft Inquiry report presents an opportunity for all members of the community to provide views and information on *draft* findings and recommendations before the Inquiry is finalised in December 2014.

Scope and purpose

The scope of the Inquiry is wide. It deals with pricing structures for drinking water and sewerage services and also with associated charging arrangements, including the possibility of replacing the current system whereby landowners are SA Water's customers with one in which end users (the actual consumers of the service) are the customers; and the potential impacts should meters (and potentially smart meters) be provided to all water customers.

The Inquiry stems from the South Australian Government's *Water for Good* plan, which identified pricing reform as a key element in ensuring long-term water security and efficiency for South Australia.

The Terms of Reference require the Commission to inquire into reform options based on considerations of economic efficiency and water security and to provide information on the customer impacts that would arise were various reform options to be implemented by the Government.

Importantly, the Inquiry is to review efficient pricing *structures* and associated charging arrangements, not whether SA Water's costs are efficient, nor whether SA Water's revenue is appropriate. The Inquiry therefore assumes that SA Water will recover the same amount of revenue from its customers as it currently earns.

Thus, reform options that will achieve greater economic efficiency, while keeping SA Water's overall revenues unchanged, have been considered. The assessment of SA Water's costs is a separate matter, to be addressed by the Commission (through price determination processes) and the Government (through transitional Pricing Orders applicable to the price determination) under the *Water Industry Act 2012* (**Water Industry Act**).

The Commission emphasises that this Inquiry is cast in terms of economic efficiency and water security considerations. While issues of social and environmental policy are fundamentally important to overall policy decisions and directions in water and sewerage pricing and reform, debate on those matters is outside of the scope of this Inquiry.

SA Water supplies drinking water to about 1.6 million South Australians (95 per cent of the State's population). Determining and setting efficient prices will result in a more productive economy. Price provides the signal that guides consumers in their purchase and consumption decisions and SA Water in its production and investment decisions.

The level of water and sewerage prices will impact on customers to varying degrees and will be very important for industry uses such as agriculture, horticulture and livestock and other uses such as public open spaces and community sporting facilities.

Nevertheless, acknowledging the importance of factors other than economic efficiency, and in order to assist the broader debate, this draft Inquiry report presents detailed information on outcomes (including bill impacts) should more economically efficient arrangements be brought into effect.

Potential for reform

Water for Good noted that pricing structures and related charging arrangements, as they apply to SA Water, have developed over a long time and have not always had an economic efficiency focus.

While good historical reasons may have underpinned those arrangements – such as social policy or environmental considerations – *Water for Good* highlighted that there may be a strong case for reform. This was particularly so for drinking water and sewerage pricing, where *Water for Good* argued that more cost-reflective arrangements would be likely to deliver benefits for this State.

Through its work on this Inquiry, the Commission has confirmed that some benefits could be realised from reform, as suggested by *Water for Good*. The Commission has reviewed pricing structures and related charging arrangements and has found there are ways in which more economically efficient outcomes could be implemented over time.

The Commission estimates that implementation of reform of the current price structures and associated charging arrangements could in the longer term unlock overall economic benefits of between $30 million to $40 million per annum.

The largest element of that overall benefit, around $25 million per annum over time, would come through setting drinking water usage charges at more cost-reflective levels, resulting in those charges being much lower than is the case now (albeit with a consequence of material increases in supply charges).

Further economic benefits of approximately $2 million to $3 million per annum may also be available over time, were it to prove feasible to move to locational pricing arrangements, rather than the current statewide pricing scheme.

Economic benefits of around $5 million per annum, over time, could be achieved through tenants having a direct customer-retailer relationship with SA Water.

For some matters raised through the Terms of Reference, such as sewerage and trade waste pricing structures and the removal of rating on abuttal practices, while economic benefits from reform have been identified it has not been possible to fully quantify those benefits at this stage.

The overall net benefits have been determined having regard to the range of costs that may be incurred by various entities in implementing the reforms, such as costs incurred by SA Water in changing its billing system.

In relation to water security, the Inquiry's draft finding is that recent investment in assets such as the Adelaide Desalination Plant (**ADP**) has largely addressed such issues for much of the State for the foreseeable future.

Implementation issues

The Commission, while recognising the materiality of the economic benefits which have been identified (some $30 to $40 million per annum), would caution that these need to be considered in the context of the size of the overall South Australian economy, which has an annual Gross State Product of around $95 billion.

This is particularly the case as, during any transition to more economically efficient arrangements, there are, in the Commission's view, likely to be material short-term adverse financial impacts at the individual customer level, particularly for residential customers and those receiving concession payments. Removal of the cross-subsidy, while an economically efficient outcome, could have material short-term financial impacts for most South Australian households.

While these can be addressed through changes to the tax and transfers system, consideration of those matters is outside the scope of this Inquiry.

This highlights the challenge faced in moving to more economically efficient prices and the need to consider whether, when and how such reform might be implemented.

Using drinking water as an example, a movement towards more cost-reflective charges would involve the removal of cross-subsidies that have largely been borne by large water users (industrial users) to date.

The majority of the economic efficiency benefits would come from lowering usage charges to a more cost-reflective level. At the same time, the associated increase in fixed charges would create the greatest impact in terms of bill increases for most customers, particularly households and concession customers. There is a direct trade-off between promoting greater economic efficiency and limiting bill increases for customers.

If prices were to be adjusted immediately, for example, the overall average impact on residential customers would be bill increases in the order of $100 per annum (with even more significant impacts on concession customers – in the order of $200 per annum) due to the increase in supply charges.

The magnitude of the financial impacts is driven largely by the extent to which usage charges are currently set above cost-reflective levels. Whereas around 85 per cent of SA Water's total drinking water costs are fixed (independent of the amount of water consumed), only 32 per cent of SA Water's drinking water revenue is derived from fixed charges; around 68 per cent comes from water usage charges. Put simply, usage charges are currently in part recovering fixed costs, and this distorts both consumption and investment decisions for drinking water.

Recognising both the long-term benefits of the proposals as well as these transitional concerns, the Commission has considered options for implementation that would ameliorate financial impacts and allow an orderly transition over time, avoiding or minimising price shocks.

The need for transition and ongoing efficiency

Noting the potential impacts of the Inquiry's draft findings and recommendations (explained in more detail below), the Commission has explored options for transition.

- Gradual transition to cost-reflective usage prices, which would smooth bill impacts over time but defer the achievement of full economic efficiency benefits.
- Implementation of some reforms ahead of others, e.g. removing property-based sewerage charges in the short term while leaving other aspects of the existing arrangement in place pending debate over alternative implementation models.
- Implementation of cost-reflective usage charges for all customers as soon as possible while allocating a higher proportion of fixed costs to large customers in order to keep fixed costs for small customers as low as possible (with the potential move to more cost-reflective fixed charges over time). This approach would allow cost-reflective usage charges to be introduced, while managing bill impacts for households (at the expense of businesses).
- Implementation of price reform within customer groups, rather than between customer groups. This would preserve the current cross-subsidies between customer groups, but may allow for more cost-reflective pricing within a particular group (e.g. large customers).

Additional actions which may facilitate more cost-reflective pricing include:

- Ensuring that concessions and exemptions are well targeted and provide adequate financial assistance to those who require it.
- Reviewing taxes and transfers more broadly, to ensure that the Government's budget requirements are recovered in an efficient manner consistent with its social policy objectives.

In putting forward these options, the Commission recognises that stakeholders may identify additional options in responding to this draft Inquiry report. Any such options will be further analysed in developing the Inquiry's final report.

It will also be important to ensure, on an ongoing basis, that SA Water's cost base is prudent and efficient. This can be achieved through the actions of the Commission in assessing SA Water's cost base and related regulatory inputs during price determination processes, and the actions of the Government in setting regulatory parameters through Water Industry Act transitional Pricing Orders, such as the value to be ascribed to SA Water's regulatory asset base.

Summary of draft findings and recommendations

The following key issues arise under the Terms of Reference.

Drinking water prices

There are currently two types of drinking water charge: a variable (usage) charge and a fixed (supply) charge.

For residential customers, the variable charge has three tiers, with prices increasing with consumption. Tier one is $2.32 per kilolitre (**kL**) (first 30kL per quarter); tier two is $3.32 per kL (30 to 130kL per quarter); and tier three is $3.59 per kL (above 130kL per quarter).

For non-residential customers, there is a single variable charge of $3.32 per kL.

There is a single supply charge, set at $282.80 per annum, which is generally applicable to all customers; however, some commercial customers pay a supply charge set at the greater of $282.80 and a charge based on the capital value of the property to which the service is provided.

In restructuring usage and supply charges, the greatest economic efficiency improvement can be achieved through cost-reflective usage charges, which impact on how water is used across different sectors of the economy. The focus has, therefore, been on reviewing options for setting usage charges that best promote economic efficiency. However, to be revenue-neutral for SA Water, any reduction in usage charges would need to be offset by an increase in fixed charges.

Usage charges

Cost-reflective usage charges align the interests of consumers with the broader public interest, as each customer faces a price that is equal to the costs to the community of supplying water.

The long-run marginal cost (**LRMC**) is the cost of supplying an additional unit of water, assuming all costs (including fixed infrastructure costs) can be changed. This Inquiry's draft finding is that an LRMC-based usage charge would increase economic efficiency by encouraging consumption where the benefits of usage exceeded the cost of supply and discouraging usage where the costs of supply outweighed the benefits.

This position is consistent with *Water for Good*, which supported more cost-reflective water prices to encourage customers to use water more efficiently, and with the principles underpinning the current prices set by SA Water.

Adoption of a single usage charge for all customers based on the LRMC of supplying drinking water (with the consequential removal of the current three-tier usage charging system for residential customers) is therefore a draft recommendation of this Inquiry.

That said, as shown below, the actual value determined for LRMC should be updated and set at a lower value to reflect recent investment in major water infrastructure, such as the ADP.

Aligning the costs and revenues of consumption would also lead to better investment decisions by SA Water (in supplying water) and South Australian businesses (as consumers of water). When revenues from water are greater or less than the cost of supply, the incentives to invest in additional water infrastructure or in water use technology can be distorted.

The Inquiry has reached the draft finding that the value of the LRMC underpinning *current* usage charges is overstated, as it does not reflect recent developments in this State. The capacity to provide water has increased significantly following recent water security investments by the South Australian government, notably the ADP. The long-run cost of meeting additional demand is now much lower than was the case when estimates were last made.

The Commission engaged an independent expert to advise on a more appropriate value for current circumstances. The resulting estimate indicates that an appropriate LRMC-based usage charge for customers in greater Adelaide may be as low as $0.62 per kL (as compared with the tier two usage price – which has historically been set to reflect the LRMC – currently set at $3.32 per kL).

As anticipated, the relatively low estimated usage charge reflects the fact that water is now less scarce for SA Water than it used to be. While significantly lower than the current usage charges, it remains broadly consistent with the Government's lower-end historical estimates of LRMC prior to the most recent drought.

Setting an LRMC-based usage charge of $0.62 per kL would produce an estimated net benefit to the community of approximately $25 million per annum over the longer term. This is based on the value of additional water consumed as a result of lower usage charges, less the cost of producing that additional water. It also factors in the potential cost to the economy of increasing fixed charges to make up the revenue shortfall from lower usage charges. That cost may arise from any reductions in households' disposable income due to an increase in fixed water supply charges.

The Commission has also considered the merits of setting usage charges at the short-run marginal cost (**SRMC**), the cost of supplying an additional unit of water, assuming no change in fixed costs. The Inquiry's draft recommendation is that, while the costs of maintaining SRMC-based pricing on an ongoing basis may outweigh the benefits, there should be flexibility to introduce SRMC-based usage charging at times when water becomes scarcer than it is now. The cost to the community of using non-price measures to reduce demand (e.g. water restrictions) is high and SRMC-based pricing is likely to be a lower-cost option for addressing a tightening of the supply-demand balance at certain times than relying on non-price means alone.

Supply charges

The water supply industry is capital-intensive and, therefore, as noted previously, most of SA Water's costs are fixed.

Supply charges are used to recover most of those fixed costs. Some other specific fixed costs, such as connection and disconnection costs, are recovered through direct charges.

Drinking water supply charges should be set to recover the prudent and efficient costs of maintaining and replacing connection and distribution infrastructure and ongoing account management costs, plus any bulk water supply, treatment and transmission costs not recovered by LRMC-based usage charges. These costs relate to ongoing customer supply requirements and therefore should be charged on an ongoing basis.

The Commission's draft finding is that the most cost-reflective approach to the establishment of supply charges would be to base them on capacity requirements (by meter size), rather than the current flat charge for most customers. This is because capacity is the primary driver of network costs.

As around 92 per cent of South Australian customers have the same sized water connection (20mm, which also reflects the meter size), in practice this would mean that most customers would continue pay a standard supply charge that was cost-reflective. Only those with a larger-sized connection (and meter), placing greater demands on the system, would pay more for the greater capacity. This approach is consistent with the Government's proposed policy position in *Water for Good*.

As noted above, this Inquiry, with its focus on pricing structures, assumes SA Water has a fixed revenue requirement. Therefore, if usage charges were to decrease to reflect current best estimates of LRMC, supply charges would need to increase above current levels – to a material degree. The reduced revenue from lower usage charges would need to be offset by increased revenue from supply charges; i.e. supply charges would increase for many customers, regardless of the basis on which these charges were set.

Customer impacts

Moving to more economically efficient usage and supply charges would lead to an unwinding of cross-subsidies that are currently built into drinking water prices.

SA Water's existing prices lead to a cross-subsidy from business customers to residential customers. Total revenue from the sale of drinking water to residential customers is currently around $528 million per annum, around $93m per annum lower than the revenue that would result from cost-reflective prices. Conversely, non-residential customers are currently paying $93 million more than cost-reflective charges.

Should this unwinding of cross-subsidies be implemented (which could occur over time, albeit with a resulting annual potential efficiency loss to the State), one matter which should be considered as a part of that process is support to vulnerable customers – both in a transitional (short-term subsidy) and an ongoing (concessions regime) sense.

Currently, around 20 per cent of all water customers receive a concession and around 5,000 are exempted (at least in part) from paying water charges. Well-targeted subsidies and concessions are a critical step in ensuring that the economic benefits of the proposed reforms can be realised, while ensuring that those customers most in need of financial assistance can receive it.

While the design of any subsidy or concession scheme is a matter for government, it is recommended that payments be made as a fixed amount, rather than incorporated into water usage charges, to avoid distorting the price signal benefits of cost-reflective usage pricing.

Regional pricing of drinking water

The Inquiry's draft recommendation is that consideration be given to changing the current statewide usage charging arrangements, under which customers of the same type are charged the same price, irrespective of location.

There are differences in the LRMC of supply in different parts of the State, depending on the local supply source and transportation costs. Setting regional LRMC-based usage charges would optimise water usage in each region and could lead to a small net benefit to the community of around $2 million to $3 million per annum over the longer term. There are, however, unlikely to be any significant benefits in moving away from statewide pricing of supply charges in the immediate term.

In order to determine regional supply charges, the existing asset values would need to be apportioned to each region. It is unlikely that such an exercise would deliver efficient supply charges to each region, given that past investment decisions have been made under statewide pricing arrangements and may have been different if regional pricing existed.

Notwithstanding the draft finding on statewide pricing for supply charges, should the Government wish to implement such an arrangement it should do so on a line-in-the-sand basis. To ensure that customers received cost-reflective pricing based on all *future* investments, a common supply charge should be set at a point in time (based on a statewide charge) and then supply charges should diverge across regions over time, as assets were added or removed in the future.

Sewerage prices

The cost to SA Water of providing sewerage services is largely fixed and is independent of the volume of sewage produced.

There is no significant benefit in charging volumetric sewerage prices and the cost of installing sewerage meters to facilitate accurate volumetric charging is likely to be much greater than any associated benefit.

The Inquiry has therefore made the draft recommendation that fixed sewerage charges should continue and that volumetric charging should not be introduced.

However, a further draft recommendation is that the method for calculating those charges be changed from a property value basis to one based on the capacity requirements of each sewerage customer (in particular, the number and size of sewerage connections).

It is the capacity requirement of each sewerage customer that is the major cost driver for SA Water. Capacity-based charging is therefore a more cost-reflective way of setting sewerage prices than the current approach based on property values.

However, SA Water is unable to accurately link customers to sewerage connection sizes at present. SA Water would need to address that information gap were this draft recommendation to be implemented.

For the same reasons as are outlined above in relation to drinking water supply charges, a further draft recommendation of this Inquiry is that while sewerage charges could continue to be set on a statewide basis, consideration could be given to allowing them to diverge across regions over time, as assets were added or removed.

Trade waste charges

SA Water charges its largest industrial sewerage (or “trade waste”) customers according to the type of pollutant and the volume discharged into the sewerage network. These trade waste customers have their sewage volumes metered and the type of pollutants discharged into the sewerage system is monitored through an audit system.

The current regime is broadly based on cost-reflective principles (using LRMC estimates) and, on that basis, it is a draft recommendation of this Inquiry that this charging framework should continue.

However, it would be appropriate to review the level at which the LRMC has been set, in order to base prices on best current estimates. Information received during the Inquiry indicates that current volume and load-based trade waste charges are under-recovering the total costs imposed by trade waste customers and are currently being cross-subsidised by other sewerage customers.

Regional LRMC estimates for trade waste would also provide economic efficiency benefits. Current charges are based on the LRMC estimates for the Bolivar treatment plant and applied to all treatment plants within the State, regardless of location or size. The LRMC of those other treatment plants are likely to differ from the Bolivar LRMC, due to differences in the nature of sewage received and the capacity at each plant. Regional LRMC-based trade waste charges would be more cost-reflective than the current statewide charges and could, therefore, drive efficient usage of trade waste services.

Until such time as the regional LRMCs are determined, however, using the current Bolivar LRMC to set trade waste charges is considered appropriate.

Billing end users rather than landowners and related charging arrangements

Under current legislation, SA Water bills landowners for water and sewerage services.

In South Australia, 28 per cent of properties are tenanted, and tenants do not have a direct contractual relationship with SA Water. This creates a number of inefficiencies.

First, landlords and property managers are required to act as intermediaries between SA Water and tenants, and they incur administrative costs in passing on water and sewerage charges. Economic benefits of around $5.0 million per annum over time could be achieved through tenants having a direct customer-retailer relationship with SA Water. Second, efficiencies of around $500,000 per annum could be achieved through reducing the number of disputes that currently occur between landlords and tenants over water and sewerage charges.

Third, there will be a greater likelihood that leaks within a property will be repaired more quickly if a tenant receives a bill directly from SA Water, as leaks are often highlighted through high bills. Reduced leakage, and the provision of more direct pricing signals to tenants, is expected to lead to optimal consumption and deferred network augmentation.

Tenants would also gain access to the full suite of consumer protection measures under the *Water Retail Code*. They would therefore have:

- rights to regular bills containing detailed consumption and payment information;
- access to flexible payment plans and bill-smoothing arrangements; and
- access to SA Water's financial hardship program.

Tenants would also be eligible to access SA Water's dispute resolution process, which includes mechanisms for having bills reviewed, meters tested and adjustments made to bills for previously over- or under-charged amounts.

This proposed reform would have implications for other legislative arrangements and policies of SA Water. In particular:

- The Water Industry Act currently gives SA Water the right to secure debts through a charge against land and the right to sell land to pursue a debt. This right should be repealed and debt recovery by SA Water should be managed through general laws, consistent with the electricity and gas industries.
- The Water Industry Act also gives SA Water the ability to issue a full drinking water supply and sewerage charge to an owner of land that abuts an SA Water water or sewerage main. This should cease, as customers should only be charged for services which they use. This is consistent with other utility industries, and the principle that people should pay for the costs of the decisions they make. If people choose not to connect to a service, they should not have to pay for it.

Metering

The Inquiry Terms of Reference require examination of the net benefits of installing metering to premises that are currently not metered and the net benefits of installing smart water meters.

The Inquiry has made the draft finding that the costs of requiring all properties to be metered outweigh the benefits. This draft finding has been formed through a review of the options of installing meters to new and existing premises or to new premises only, and examining various timeframes for rolling out additional meters.

Under each option, there is no economic case for mandated meters. The estimated cost of requiring all properties to be metered, net of any benefits, is between $7.6 million and $74.4 million in net present value terms (over 25 years). The Inquiry's draft recommendation is that the current arrangements continue to apply, whereby individual metering is optional.

The Inquiry has also made the draft finding that the costs of installing smart water meters are likely to exceed the benefits under a similar range of scenarios. The estimated cost of requiring all properties to have smart meters exceeds the benefits by between $48 million and $170.5 million in net present value terms (again, over 25 years).

Water planning and management charges

There are various external impacts associated with water use, including impacts on the environment of withdrawing water from natural sources. Including the cost of those external impacts in water prices increases economic efficiency as it ensures that prices reflect all costs to the community of water use, not just those directly incurred in supplying it.

SA Water currently recovers through its drinking water charges amounts relating to water planning and management, which is a positive step in factoring environmental costs into prices. There would be value in an independent and public review of the prudent and efficient level of those water planning and management costs charged to SA Water. This would ensure that such costs were subjected to the same analytical rigour as other components of the costs underlying the prices paid by customers.

Impacts and transition

Key questions for all members of the community in considering this Inquiry's draft findings and recommendations are that, recognising the importance of capturing economic efficiencies for the long-term benefit of the State, what level of reform is needed, what reform pathways are optimal, and over what time period should reforms be implemented?

Detailed analysis of the impacts to customers of the draft recommendations has been undertaken to assist consideration of those issues. That analysis has taken identifiable and quantifiable benefits and costs into consideration, using information drawn from SA Water's database.

The Commission is keen to receive views on alternative approaches in this area. Those views will be considered and incorporated as appropriate through the process of finalising the Inquiry.

The analysis undertaken to date shows that, while there are overall economic benefits, moving to economically efficient water and sewerage prices would lead to the unwinding of significant cross-subsidies that have benefitted most households at the expense of other customers, mainly large water users (industrial users).

The result would be that around 75 per cent of customers would receive annual bill increases of $50 or more, with the remaining 25 per cent seeing no material change or a reduction in bills.

This serves to highlight that, while reforms of the type reviewed in this Inquiry would advance customers' welfare in the long run, there is a need for careful consideration of possible transition pathways to implementation of these reforms. The Commission has identified several transition options and considerations which could be used to ensure that the economic benefits of reform were captured as soon as possible, while at the same time ameliorating short-term customer impacts.

This necessarily implies that *some* economic benefits would be forgone (in the order of $30 million to $40 million for each year that reform was deferred) and that there would be *some* financial impacts on customers and SA Water.

Next steps

The Commission will be consulting widely on the findings of this draft Inquiry report. It invites all members of the community to provide written submissions. Details on how submissions may be provided are on the inside front cover of this report.

Written submissions should be provided by 10 September 2014 and will be published on the Commission's website (www.escosa.sa.gov.au).

Public forums and meetings with interested parties will be held during the consultation period to provide further opportunities for comment. The proposed dates and locations for these will be provided on the Commission's website.

The Commission will consider all relevant submissions in preparing the final Inquiry report to be provided to the Treasurer and Minister for Water and the River Murray by 31 December 2014.

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