



Response to Questions Raised in ERA Inquiry on Urban Water and Wastewater Pricing
Issues Paper - 22 July 2004

The Office of Water Policy (OWP) welcomes the opportunity to make this submission to the issues paper released by the Economic Regulation Authority (ERA) as part of its inquiry on Urban Water and Wastewater Pricing. The following comments are provided in response to questions raised in the Issues Paper and follows the structure of that document.

The OWP supports the Minister for the Environment in her role as Water Industry Minister. This role includes proposing inquiries to the Treasurer, to be undertaken by the ERA, and the setting of prices (through by-laws) for the water industry.

The OWP looks forward to participating further in the consultation process as the methodology and draft reports are released.

Comments on the Introduction

Page 1 of the Pricing Issues Paper refers to the need to promote regulatory outcomes that are in the *public interest* (ERA Act 2003, Sec 26.1a). In its final report the ERA should define what it meant by public interest, and how this has been taken into consideration in making its recommendations on price.

Similarly on page 1 the timeframe envisaged by the ERA Act 2003, is that which is consistent with the *long-term* interests of consumers. Consumers are generally seeking the cheapest possible price, the highest possible standard of water quality and absolute reliability of service (continuity, flow, etc). Presumably, the long-term for most consumers would be lifetime consumption. Unfortunately, consumers may not be generally aware that trade-offs are necessary between price, quality and reliability, many will consider water and wastewater as an essential service, provided by a Government Trading Enterprise, in the same way as roads. The ERA should propose how it will balance these three factors in a way that will satisfy the long-term interests of consumers.

In the background to how tariffs are set, the paper highlights residential and commercial water and wastewater tariffs. Service providers also negotiate tariffs with Industrial users. The revenue from these tariffs will need to be included in the allowed revenue base.

Page 11 identifies that the average household wastewater bill in Western Australia is the highest in Australia. Whereas, the operating cost per property identified on page 42 is the second lowest. The ERA should comment on why this disparity exists in its final report.

Page 13 highlights the changes in commercial charges over time. The previous Office of Water Regulation received some complaints regarding the tariffs for commercial wastewater charges. The ERA in its final report should consider benchmarking Western Australian charges against those of other states.

Page 14 discusses the Government's uniform tariff policy. However, this policy applies exclusively to those tariffs levied by the Water Corporation. This has led to disparities between the treatment of residential consumers serviced by the Water Corporation and those serviced by other smaller service providers in regional Western Australia. The ERA should make recommendations on the setting of water and wastewater charges in general. Linked to the issue of the uniform tariff policy is that of the Governments Community Service Obligation (CSO) policy. As with the uniform tariff policy, CSOs are only available to the Water Corporation. No policy exists for the subsidisation of non-Water Corporation service providers (including, as you note, Bunbury and Busselton Water Boards). The ERA should consider making recommendations on whether a more inclusive approach should be taken to the provision of CSOs.

Cost side CSO payments from Government form a significant part of the Water Corporation's total revenue. Will the ERA be including CSO payments in the revenue base? If it is to include CSOs in the revenue base how will it take this into account in its estimation of the asset base (page 29)? In particular, the ERA will need to deal with the consequent definitional circularity that arises in taking an economic value approach? On page 30 you state that "The Water Corporation bases its asset values on the written down replacement cost. Where this amount is greater than its 'recoverable amount' the asset is written down to its recoverable amount, which is based on the asset's future revenue generating capacity." Again this introduces a definitional circularity, in that both the price (which the ERA is trying to determine) and the level of CSOs, which are set in relation to asset values and price/revenue, determine the future revenue stream.

Page 22 of the Issues Paper discusses the ERA's purpose in regulating the price of water including "to ensure that the amount of water that is required for basic needs is affordable...". Since basic need applies to people and not business it is relevant only to tariff setting for households or residential customers. Apart from meeting the basic needs of all consumers, the ERA's distributive justice goal should also be to ensure that residential water and sewerage tariffs, inter alia, enable the poor to satisfy their basic needs without financial hardship. Assuming the ERA intends to pursue these goals as "regulatory outcomes...in the public interest" and exercises its discretion to weight them accordingly, three pivotal questions arise:

- What does/should the term "basic needs" mean?
- What volume of water meets basic needs?
- How should affordability be measured?

The term "basic need" has not been defined. This is a significant matter as the volume of water attributed to "basic need" is intended to attract the lowest volumetric charge. A fundamental error will be made in both volumetric pricing and in block step tariff recommendations if nobody knows what 'basic needs' is supposed to consist of or the reasoning behind the determination of its quantum.

It should not be assumed that basic water needs for WA consumers should be 150kl per residential household per annum. Apart from the lack of reported evidence to validate/justify this assumption, there are serious shortcomings in the idea that (whatever the quantum) basic water needs should apply on a per household basis.

The number of individuals residing in connected WA households is not the same in every household, nor is it necessarily constant in any household. Although the issues paper correctly states that "water is essential for life" it does not follow that basic water needs are somehow met on a per household basis regardless of how many individuals reside in a given household.

Consequently, the ERA will need to ensure that it regulates the price of water in such a way that each person in WA is provided access to the same amount of water to meet basic needs (however defined/agreed) and that this is affordable on a per capita basis rather than a per connection basis. For example, if 1 person resides in a connected household, he/she would effectively receive 150kl/pa of water priced to meet basic needs. In a 2-person household, on average each would receive only 75kl/pa to meet basic needs. For 3 persons it would be 50kl/pa and so on. Again, it

can be seen that setting volumetric consumption to meet “basic needs” on per household basis can hardly be in the long-term (or short-term) interests of consumers, nor would it appear to promote regulatory outcomes that could be construed as “in the public interest”. In short, it would be (and is) inequitable – and will remain so unless the lowest tariff is applied in a way that meets individuals’ basic needs.

It may be that the ERA will be unable to recommend a pricing structure that ensures affordability of basic water needs on a per person basis, but it will need to devise pricing principles and recommendations requiring service providers to deliver the same outcome if it is to “ensure that the amount of water that is required for basic needs is affordable”. Affordability for a connected household must take account of the number of persons residing in that household.

Affordability for the financially disadvantaged

Water to meet basic needs is intended to be affordable for everyone. Once the required/agreed quantum of basic need is reviewed and determined, its affordability should be considered – in particular its affordability for the financially disadvantaged. There are several ways in which affordability of water consumption can be estimated in the population. The ERA Issues Paper does not define the means or method by which affordability will be calculated.

Affordability for the poor is usually derived from a calculus of; the level at which financial hardship is reached, the minimum income of that group, and the willingness of such customers to pay for water to meet “basic needs”.

On page 22 and again on page 55 the paper notes that charges for residential wastewater services are based on the gross rental value (GRV) of properties. As such, there is no relationship between the cost of service and the price paid for the service.

As charges could only ever be based on average costs this would be the case under any charging regime. As noted on page 55 of the Issues Paper, the Joint Working Party on Water Pricing by the Water Corporation considered this matter extensively as part of National Competition Policy reforms. It was felt at the time that any move towards a uniform fixed charge based on average cost would benefit those consumers in high value areas at the expense of those in low value areas. Based on ABS demographic data there is a high correlation between the value of residential property and income. As such, the effect of changing the charging regime would be to increase the cost to those most disadvantaged in our society to the benefit of the most

advantaged. Using GRV could be viewed as a form of price discrimination that favours the least well off (ie price discrimination based on the 'ability to pay' principle). To further add to this problem, and as noted in the previous comments, the average wastewater bill in WA is significantly higher than other States. The Office of Water Policy would not support a move away from GRV based charging unless it is accompanied by a significant reduction in the average bill for wastewater charges, to bring it into line with other states. There is no efficiency or equity benefits to be gained by moving away from the current charging arrangements. The fact that this form of charging creates some additional administration costs (which are paid to Government) for the Water Corporation should not override the principle of 'ability to pay' implicit in the current arrangements.

On page 24 you raise the question as to whether it is appropriate to use water pricing to achieve all the purposes you outline in the preceding two pages. That is, ensuring the financial viability of the service provider, basic water needs are affordable, consistency of treatment of customers throughout Western Australia and to promote the conservation of water.

Clearly the financial viability of the service provider is essential to the long run provision of a service to all consumers. However, this is a function of the absolute level of revenue not the relative setting of tariffs. Given the relatively inelastic demand for water services the setting of tariffs should not significantly impact on allocative efficiency. The issue of the consistent treatment of customers throughout Western Australia can be interpreted in a number of ways, and comes down to the underlying philosophy (value judgements) underpinning the regime to be implemented. For example, applying the 'user pays' principle implicit in the National Competition Policy Agreement (full cost pricing) would lead to consistent treatment, however in many cases such treatment would not be equitable (eg country consumers would pay more). To add to this, policies on uniform tariffs are inconsistent with other principles such as 'polluter pays' and demand management (to the degree that you take the view that there is sufficient price elasticity in the demand for water services to justify higher prices). Further if higher prices are implemented for demand management purposes, will this lead to service providers achieving supernormal profits, undermining the main goal of regulating a monopoly.

To further exacerbate the situation there are also issues of regional and industrial development. To what degree, if at all, should the setting of tariffs and charges be influenced by other economic goals of Government? If CSOs are made available for these other goals to what extent

do they undermine the principle of ‘full cost pricing’ explicitly contained in the National Competition Policy Agreement?

On page 26 you ask how pricing policy can be used to give service providers an incentive to achieve efficiency gains.

There is general agreement in regulatory literature that in order to encourage service providers to behave in a more efficient manner they must have an expectation that in the short to medium term they stand to benefit from the efficiency gains they make. This would only be the case if the regulator could set a forward price path based on a predetermined productivity offset and allow the benefits of exceeding this level of productivity to accrue to the provider, over a reasonable period of time (say 5 years). If the service provider cannot be certain of the stability of the price path (because the regulator cannot guarantee it) they are unlikely to pursue efficiency gains of their own volition. Instead, given that their revenue is largely based on a return on assets (capital), they are more likely to pursue policies that increase the value of their asset base, a well-documented problem with rate of return regulation. In the United States, where rate of return regulation has been in place for over a century, independent regulatory tribunals are put in place to assess every aspect of capital expenditure to ensure that this expenditure is justified and prudent. This is an invasive and expensive way to regulate and the cost of regulatory rate cases can run into the tens of millions of dollars. Western Australia has no such mechanism. Alternatively, regulators can implement a performance based regulatory regime (such as some form of price cap regulation mentioned in your discussion paper). Such a regime is less invasive, but as indicated above, depends on providing incentives to achieve efficient outcomes. Using an initial building blocks approach is about setting the general level of prices in the first period. Thereafter, the price path is determined by a price cap arrangement with a review after 5 years. It is at this point that the additional productivity benefits are passed on to consumers either through reduced prices or through increased payments to government, that can be used to provide services to the community (strictly speaking, if the model of regulation is intended to mimic a competitive market, the efficiency gains should be passed on in price reductions). In short, if there are to be benefits to the regulation of service providers the service providers must be given certainty regarding the price path over time.

The above argument applies generally in the case of large monopolies, especially those operating in a natural monopoly environment such as water service provision. To add to this monopolies in the water industry provide an essential service to the community. It is for this reason that such monopolies have historically been kept in the hands of government.

The argument could be made that; since the motivation of government owned utilities is different from private sector utilities (in terms of profit maximisation), a less ‘heavy-handed’ regulatory regime is needed. That is, a ‘light-handed’ form of regulation is appropriate. Such regulation, if put in place, would oversee the performance of the service provider through appropriate (and less invasive) benchmarking against other service providers in Australia and overseas. In fact, most major urban providers in Australia already voluntarily subject themselves to detailed benchmarking through the Water Services Association of Australia (WSAA Facts), using this as a basis for continuous improvement. The Water Corporation has also in the past contracted OFWAT to benchmark its performance.

Light-handed regulation allows the service providers to move forward with the business of providing essential infrastructure. Heavy-handed regulation can lead to an atmosphere of uncertainty that could see under-investment in significant infrastructure. This is of particular importance in the water industry, where (as demonstrated in the issues paper) Western Australia has faced a long-term reduction in streamflows. Water Corporation data in the Issues Paper demonstrates the need for urgent planning and investment in the water industry. Service providers, who have the expertise and resources to ensure the long-term sustainability of the industry, are in a better position than regulators to determine appropriate levels of capital expenditure.

As a result of the above discussion it could be argued that what is required is that service providers be given certainty within a light-handed regulatory regime. However, National Competition Policy requirements envisage a much more traditional approach to economic regulation. This approach has also been adopted in the water industry by a number of other State regulators (eg IPART and the Essential Services Commission).

On page 26 you ask ‘How far ahead should prices be set?’

In the terms of reference issued to the Authority, the Authority was requested to give consideration to matters, which included, among others, the most appropriate price path. However, given the previous discussion this presents a dilemma, as the existing regulatory regime cannot independently guarantee a price path. In Western Australia (as indicated in the Economic Regulation Implementation Committee’s (ERIC) Position Paper), the Government will set prices, with final responsibility for tariffs lying with the Industry Minister for Water, not the ERA. A price path set over any reasonable period would appear, in the first instance, to pre-

empt Government decisions in any one year. Further, as noted by ERIC, unlike the ERA, the Government will be cognisant of the budgetary implications of prices, which could vary markedly over any reasonable regulatory time horizon (the standard horizon being 5 years).

Given this, and previous comments, the ERA would need to make it clear in its final report, that any comments it makes relating to price paths, is merely an input into the broader considerations on which Government will base its decisions. This is not to say, again as noted in the ERIC position paper, that the ERA would not have a role in setting price paths in the future.

On page 30 you ask how the value of the initial asset base should be set.

The Parliamentary Standing Committee on Agriculture and Resource Management made detailed recommendations on the valuation of assets and asset consumption. Putting aside the obvious problems of circularity implicit in the initial Expert Group Report on Asset Valuation (made even more intractable by the nature of the CSO regime in Western Australia), an equally significant issue is the treatment of contributed assets and the associated issue of headworks charges. Given the magnitude of the contribution made by headworks charges to the revenue of service providers, these issues need thorough consideration.

On page 32 you ask a number of questions relating to the methodology for setting WACC.

A considerable amount of work has already been undertaken by the Gas and Rail arms of the ERA on the questions raised. Likewise Macquarie Bank was contracted to undertake a WACC study by the Water Corporation. It should be a simple exercise for the ERA to adapt these pre-existing studies to this purpose.

Having said this, the ERA should consider the degree to which the Water Corporation's CSO arrangements with government implies it faces a lower risk investment environment than that faced by private sector service providers who do not have access to CSOs. As noted on page 35 the Water Boards do not receive CSOs. That is, despite being government service providers, they are not provided with CSOs. This issue also has ramifications for the 'need to promote competition' considerations included in the terms of reference.

On page 35 you ask how dividends should be allowed for?

Dividend policy is a matter for the shareholder (in this case Government). However the stimulation of competition is also indirectly impacted on by the differential tax arrangements faced by government service providers and private sector providers. In particular, tax equivalents paid under the TER are paid directly to the State, whereas a private provider pays tax to the Commonwealth. This implies that, from a state perspective, direct benefits are maximised (all things being equal) by having government providers provide services. As such, in those cases where competition would be possible, private providers would appear to be an immediate disadvantage. Add to this that the Water Corporation has direct access to CSOs, and is directly involved in state planning and policy issues at every level, and that current legislation imposes severe competitive restrictions on the Water Boards, it would appear that actual competition in the industry is unlikely. The ERA may wish to make a statement in its final report about the relevance of competition in the water industry.

On page 39 you ask whether the standards of service in the operating licences appropriate?

One of the main justifications for licensing water service providers is ensuring that consumers receive a high level of customer service.

For licence standards to be considered appropriate they should be measurable and focus on issues of relevance to consumers. Surveys conducted by the Office of Water Regulation have identified the issues of prime concern to customers of water supply and sewerage services. These issues should provide the basis for determining which standards should be covered by the operating licence.

For water supply, the main issues of concern relevant to standards identified in the 2003 survey were:

- The quality of water;
- Pressure and flow; and
- Supply interruptions.

Many of the concerns raised by customers over water quality are issues of non-health or “aesthetic” related drinking water quality. These concerns include the taste, colour or smell of water supplied.

Presently the standards in the licences do not address non-health related drinking water quality. Licensees are required to aim to comply as far as practicable with the National Health and Medical Research Council Guidelines, however the licence does not make this mandatory or set a timetable to meet the guidelines. Reference is made in the licence to the high cost of meeting the guidelines for non-health related drinking water quality.

The OWP considers that the licences should set a standard for non-health related drinking water quality.

In respect to sewerage services, the three most serious issues identified by customers were sewerage odour, sewerage overflows, and sewerage pipe blockages. The licence for the Water Corporation sets standards for overflows and blockages but does not address odours.

Apart from considering the areas of service targeted by the licence standards, the level at which the standard should be set needs to be considered. This is more fully discussed in the next section, however the OWP believes it appropriate that a review be conducted to set minimum acceptable standards of service for water services.

Again on page 39 you ask whether customers would be willing to pay for higher standards than they currently receive? If so, to what extent and to which standards and services?

Under current arrangements for water services in Western Australia there is not a direct link between the price paid by individual customers of the Water Corporation and the quality of service they receive. Due to uniform pricing most consumers in regional areas pay less than it costs to provide their service. However country urban areas have a lower standard for minimum pressure, and some country urban areas receive water of a lesser aesthetic quality.

Aqwest and Busselton customers are in a different circumstance as the charges they pay can be linked to the provision of infrastructure in their immediate area.

The uniform pricing policy implies a uniform standards regime. It does not provide for variations of the type envisaged by the question posed in the Issues Paper. The issue is whether all customers should pay more to ensure a minimum level of service is provided on a statewide basis.

For Water Corporation customers the question that could be asked, firstly, is what is the minimum acceptable level of service? Secondly, customers could be asked whether they are prepared to pay to deliver this standard on a statewide basis.

On page 46 the ERA requests input of any other matters that should be considered in relation to recommendations on the required revenue.

The OWP considers that the ERA needs to state how it will be attributing asset values, depreciation and operating costs between metropolitan consumers and regional consumers. Further, if the ERA is to make recommendations on the setting of tariffs it will need to consider how costs are to be distributed between different classes of consumers. For example, how much of the Harvey Scheme will be attributed to irrigation and how much to consumptive uses by other customer classes?

On page 49 the ERA has requested comment on whether prices should play a greater role in reducing demand when water is in short supply.

Modelling undertaken by the Water Corporation (based on elasticity of demand estimates provided by CSIRO) indicates that even significant increases in price would lead to only small changes in the quantity of water consumed (elasticity estimates: in-house -0.04 , ex-house -0.31). Further, in the case where restrictions are already in place the reduction in consumption would be very small. In short, such price increases would mainly have a revenue effect. That is, the main effect of such a policy would be to increase the revenue collected by the service providers. A re-balancing of fixed versus consumption charges could offset the revenue effect. However, given the variable nature of supply, such a re-balancing would also have the effect of increasing the variability of service provider revenue from year to year, making the job of determining an appropriate price path more difficult (pp 50).

A policy of significantly increasing prices (even if only applied during the summer months – on a seasonal basis pp 51) would have a negative social impact on lower socioeconomic groups especially those with large families. The limited impact that could be expected from such a policy, in terms of reduced demand, would need to be weighed against the negative social impact (in line with taking triple bottom line approach). The ERA should consult with community and welfare groups on any such proposals.

The view taken by the Joint Working Party – Water Pricing Issues (2003) was that the best means of achieving reduced consumption was the use where necessary of demand restrictions.

On page 50 the ERA asks whether usage charges should reflect the cost of developing the next most efficient water source.

In a footnote on the same page it adds that the efficient price for water is the cost of producing an additional unit of water, or its *marginal cost*. This footnote goes on to state that in the long run, in times of capacity constraint, the relevant marginal cost is the *long run marginal cost (LRMC)*.

Actually, what is implied is, that for the last unit of production, the marginal cost should equal marginal revenue (units of output produced beyond this point are not profit maximising in a static sense). This does not imply that the price of the preceding units of production needed to be set equal to marginal cost. This is the basis of price discrimination. The question is then, should price discrimination occur, and if so on what basis?

Certainly, this statement represents simple conventional wisdom, and OFWAT among others has been known to make such pronouncements. However, the reality of the argument in terms of *short run marginal costs (SRMC)* and LRMC is not as straightforward as presented.

The term LRMC is used to signify the cost effect of a change, which involves some alteration in the amount or timing of future investments. Alternatively, SRMC takes capacity as given, and as such relates only to operating costs (Eg increasing water supply leads to increased treatment and pumping costs). In light of this, it is interesting to note that a residential property, in Perth metropolitan area, consuming the average (350 kL) amount of water a year, would pay a consumption charge of \$197 (total charge of \$346), as compared with an operating cost of \$145 per property (page 41 of the Issues Paper).

SRMC can be calculated in a particular year, whereas LRMC can only be estimated for future years, for which construction of increased capacity is not firmly committed. Pricing this way would create an incentive for a service provider to overstate its future capital expenditure program, or at the very least imply a time horizon for its investments shorter than actually intended.

Further, the costs associated with the water industry are largely fixed over any reasonable time horizon. This would imply that if consumption charges were to be equated to the variable component of costs (reasoning for two-part tariffs), consumption charges would be small relative

to fixed charges. This would need to be reconciled with previous statements made in the Issues Paper regarding re-balancing of fixed versus consumption charges for demand management reason.

The water industry is dominated by natural monopolies, operating large distributed networks. Conventional wisdom suggests that the long run average costs (LRAC) in such industries always exceed LRMC. As such, pricing at LRMC would undermine the financial viability of the service provider. Certainly the notion of LRMC can be redefined to include fixed costs as being variable in the 'long run', however this reduces the argument down to pricing at LRAC.

In terms of the distributed network nature of the industry, it is unclear over which operating area the marginal cost is to be calculated. For example, is the area a segment of the metropolitan area, the whole of the metropolitan area or the whole of the State? If the last, then you would be averaging in terms of location as well as time. In such cases, the notion of marginal cost becomes even less tangible. Conversely, implementing price equal to marginal cost by location would require a move away from uniform pricing.

In any case, which price is being referred to, those prices applicable to residential consumers, commercial or industrial users? Will the same price be charged to irrigators as domestic consumers or large industrial customers, since the marginal cost, however defined, is the same irrespective of the class of user?