Submission to the Economic Regulation Authority's Inquiry on Country Water and Wastewater Pricing

13 January 2006

WATER CORPORATION

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Executive Summary

This paper represents the Water Corporation's response to the Economic Regulation Authority's issues paper: *"Inquiry on Country Water and Wastewater Pricing in Western Australia (9 December 2005)"*. In particular, it provides a response to the questions raised by the ERA relating to the pricing structure for water and wastewater services.

Key issues addressed are:

- Prior to 1985, water and wastewater services were provided by two State- owned utilities – the Metropolitan Water Authority and the country water supply division of the Public Works Department. Some of the remaining differences between metropolitan Perth and country tariffs are due to their origins being in different organisations.

- The level of country charges are a decision for the State Government, with country tariffs supported by Community Service Obligation arrangements. These arrangements ensure that the underlying commercial performances of the Corporation's country operations are met.

- Due to the generally higher and diverse range of unit service costs in the country (compared to metropolitan Perth) there is a need for differences in the tariff structure between the two in order to address the formulation principles stated below.

- The following principles govern the formation of the current tariff structures:

    - Simplicity, to avoid excessive administration resourcing requirements and facilitate ease of customer understanding.

    - Customer acceptance, by taking into account the social impacts of the pricing structure.

    - Economic price signals.

    - The State-wide Uniform Pricing Policy.

Introduction

This paper is the first of the Water Corporation's submissions to the ERA on pricing in country regions, as called for in the Authority's issues paper: *"Inquiry on Country Water and Wastewater Pricing in Western Australia (9 December 2005)"*. This inquiry follows the recent completion of the ERA's inquiry into urban water and wastewater pricing.

The paper is divided into four sections:

- Section One outlines specific issues relating to the provision of water and wastewater services in regional Western Australia.

- Section Two outlines the current pricing structure, including an explanation of the historical decisions and complexities that led to the pricing structure.

- Section Three explains the Corporation's total revenue requirements including details of the Community Service Obligation arrangements.

- Section Four summarises the Corporation's response to the specific questions raised in the ERA's *Issues Paper*.

Attachment 1 summaries the various methods of providing wastewater services to country schemes, including details of scheme suitability and relative costs.

1. Provision of Country Water and Wastewater Services

The Water Corporation provides world class water and wastewater services to metropolitan Perth and hundreds of towns and communities across Western Australia's 2.5 million square kilometres.

In the 2004/05 financial year, the Corporation supplied 113 billion litres of water to nearly 200,000 regional customers. In that same year, the Corporation treated 135 billion litres of wastewater in 90 treatment plants, using 3,385 kilometres of sewer pipes in regional areas alone.

The provision of these services is a significant challenge in a State as vast and geographically diverse as Western Australia. The Corporation's objective is to meet the needs of its customers while maintaining a corporate-wide commitment to its public health and environmental responsibilities. As a State-owned utility, this is undertaken as part of and in conjunction with, the Government's social and economic objectives.

1.1 Country Water Supplies

The Corporation is responsible for the provision of potable water supplies across Western Australia, except for areas supplied by AQWEST (Bunbury), Busselton Water and a handful of other schemes run by local shires, private organisations or mining companies. Its responsibilities include the provision of potable water to sparsely populated and remote communities.

The vastness of Western Australia (by reference to its size, topographical and meteorological divergence), presents the Corporation with a significant set of challenges that makes the provision of country water services much significantly different to servicing metropolitan Perth. Some of these challenges include:

i) **Geographical Location.** Many of the country areas rely on very long pipelines to convey the water from the source to the scheme.

ii) **Availability of Different Sources.** Many country regions have only one feasible water source option (often only groundwater). Having only one main water source has several cost implications, including potentially:

- High long-run marginal costs. In the event that there is a change to the reliability of existing sources (for example, climatic change or reallocation of groundwater rights) or demand grows past the capacity of existing sources – there are often few viable alternatives sources and all may have a high unit cost of supply.
- Lack of security of supply. A scheme reliant on only one source must have a high level of contingency infrastructure because of the possibility of disruptions to supply from that single source. This infrastructure may include significant local storage capacity, duplicate conveyance infrastructure, standby pumping facilities etc.

Metropolitan Perth, by comparison, has numerous sources available allowing the Corporation to adopt its "*Security through Diversity*" approach for source development.

A further point to note on country water sources relates to the extent to which the Corporation reuses treated wastewater in regional areas. Approximately 38 per cent of all country wastewater is treated and subsequently reused as a non-potable water source, reducing the demand on potable water supplies. The percentage of country reuse contributes significantly to the 20% state-wide reuse target as part of the State Water Strategy.

iii) Economies of Scale. In general, the larger the customer base the lower the cost per kilolitre of water supplied. This is relevant for most capital and operating costs, and is of particular relevance for the cost imposition of increased regulatory requirements. Australian drinking water guidelines for example, require potable water to be of the same minimum standard state-wide. This becomes particularly expensive when retrofitting remote country schemes with few customers to new standards.

iv) Certainty of Growth. Metropolitan Perth has a consistent, almost guaranteed annual growth that can be planned for with a reasonable degree of certainty. However, growth in country schemes varies considerably. An obvious example is that many towns in the Southwest are experiencing significant growth, whilst some outback towns in the Goldfields region have populations that are either stagnant or declining.

Therefore, each scheme may face a unique set of issues. For example:

- Declining populations means the excess capacity costs will be attributed to a declining number of customers.
- Schemes experiencing rapid growth may be particularly affected to the issues identified in (i) and (ii) above.

Further to this issue of growth, is the impact that only one or two large customers can have on a town. This is of particular significance in mining regions where the requirements of one customer can have a significant impact on total demand, making demand projections uncertain. This affects both planning and cost projections.

This issue is partly dealt with through the use of bulk water supply agreements through which country commercial customers with a peak demand capacity of more than 49 kL/day are required to enter into a Bulk Water Supply Agreement. This requires them to pay cost-reflective prices.

v) Peak capacity. Many country towns have a significant variance in high and low seasonal demand. This is particularly relevant to tourist towns in the Southwest. The capital costs required to meet peak season demands may be considerable and, for the most part of the year, far in excess of actual requirements. Recovery of these costs will be limited, given the low customer base and reduced volumetric demand for most of the year.

For the various above reasons, it is generally not appropriate to compare the provision of water services of country schemes to metropolitan Perth. There are often unique circumstances facing individual schemes coupled with greater uncertainty over future requirements. This is of particular relevance when determining the marginal cost of supply, as discussed further in Section 2.1.3.

1.2 Country Wastewater Disposal

The Corporation is responsible for the provision of wastewater services for most of Western Australia, including metropolitan Perth and to 90 country towns. Additionally, there are some schemes run by local shires or mining companies.

Costs, both capital and operating, may vary significantly between metropolitan and country schemes, as well as between individual country towns.

The underlying factors most influencing these differences are:

i) **Size of the community**. The per capita cost (both capital and operating) are generally inversely proportional to the size of the community being served.

ii) **Remoteness of the community**.

iii) **Type of environment.** Small country communities may be located in sensitive environments, requiring a greater level of environmental protection. Additionally, some country communities are popular tourist destinations requiring infrastructure to cater for short term peak flows.

The expectations of the community across the state are for:

i) An increasing level of protection for the environment.
ii) Reduced risks to public health.
iii) Greater social amenity.

These expectations translate to:

- **Requirements for emergency storage to reduce the risk of overflows.** This is largely because of the reaction to the infrequent overflows of raw wastewater to the Swan River, applied more broadly to include country areas as well.

- **A greater need for nutrient reduction**. This translates into higher levels of treatment and increased sludge production.

- **A greater need for seasonal storage of treated wastewater**. This is to reduce the risk of wet weather overflows, to reduce discharge to waterways during spring, summer and autumn, and in some cases to completely eliminate discharge to waterways. The cost of large storage facilities can be several million dollars even for a very small town, especially if the storage requires lining.

- **Greater demand for the treated wastewater to be recycled.**

- **Increasing levels of protection of public health, especially for recycling schemes.** These are reflected in the latest National and State guidelines. In many cases a Shire runs the reuse scheme. Increasing requirements are becoming difficult for shires to meet and the Water Corporation is gradually taking over greater responsibility for recycling.

- **Greater need for filtration and disinfection** This is for both recycling and discharges to waterways.

- **Greater need for odour reduction**. This is more specific to larger urban areas where development pressures on the treatment plants are greatest. Costs for odour reduction and buffer protection are considerable.

While there is some regulatory pressure to upgrade existing systems to meet these community expectations, the major driver for investment in capital is growth. However, to gain the regulatory and community approvals to expand the infrastructure requires that the entire scheme meets these latest expectations.

Growth comes in several forms:

- Population growth in towns that are already sewered.
- Infill sewerage - in towns that may already be sewered or those which are not sewered and therefore require a new scheme.
- Development on the fringes of urban areas that are remote from existing sewers, and require a new scheme.
- Industries that no longer wish to treat their own industrial wastewaters and seek acceptance into the sewer.
- Mining towns that are normalised and their existing infrastructure handed over to the Water Corporation.
- Shire run schemes that the Shire can no longer afford and hand over their existing infrastructure to the Water Corporation.

Additional information relating to the types of wastewater treatment options, their suitability for different areas and the relative costs has been included as Attachment 1.

2. The Corporation's Country Tariff Structure

2.1 Water Charges

Prior to 1985, water and wastewater services were provided by two State-owned utilities – the Metropolitan Water Authority (metropolitan Perth) and the country water supply division of the Public Works Department (regional WA).

To understand the current tariffs, it is useful to examine the history of the tariff structures, in particular the impact of the merger between the country and metropolitan organisation when the Water Authority was established in 1986. Given that some current tariffs are still based on structures inherited from the Corporation's predecessors, it is acknowledged that some pricing inconsistencies between the country and metropolitan Perth still exist.

2.1.1 Residential water charges

Residential customers pay an annual service charge based on service availability at a fixed, flat rate that is uniform across the state. Additionally, volumetric charges are based upon a tiered tariff structure with increasing rates for higher usage. Country town water schemes are categorised into Country South and Country North (referred to by the ERA as Groups A and B respectively) with each group further segregated into five classes, based on cost of service criteria. Differential consumption charges apply to consumption above 350kL (550kL Country North).

History of Residential Water Charges

Uniform residential annual service charges were applied from 1989/90. This uniform pricing policy was extended to residential consumption up to 350 kilolitres per annum in 1994/95. A state-wide Uniform Pricing Policy has been supported by successive Western Australian governments.

Statewide uniform tariffs for residential water consumption are based on the principle of ensuring all West Australian's, regardless of where they live, have access to high quality drinking water at affordable prices. The first 150 kilolitres - "water for life" - is provided at a lower price, and is significantly below the average cost of bulk water supply.

Following the merger of the Corporation's predecessors, metropolitan Perth adopted the country tariff structure for a number of charging tapers, with increasing prices for high volumes. This structure was developed in regional Western Australia as costs were generally very high, and the desire was to make an essential service available at an affordable price, then progressively discourage high levels of consumption.

The tariff structure was essentially the same for metropolitan Perth and the county, but with different prices for consumption above 350kL. In 2003/04 the number of metropolitan tariffs was reduced.

Differential consumption charges for country customers above 350 kilolitres were introduced in 1995/96. It was concluded that consumption above 350 kilolitres (550 kilolitres in Country North) could not be classified as an 'essential service' and was more closely related to lifestyle purchases.

Above 350kL, prices are differentiated on the basis of cost classes, with the costs for defining the classes based on a three-year moving average of average costs. Both total cost and total operating cost are considered. Prices applied within each class increase in steps. In the vast majority of country schemes, are less than the average total cost for that class.

The 350 kL threshold for the Uniform Pricing Policy was selected as it was the limit for the first two tapers for both the country and the metropolitan tariff structures. At the time, this threshold approximated the average residential consumption, although the similarity of the average consumption to the uniform threshold was more from coincidence than intention.

The North/South split for country consumption was introduced in 1974/75 to acknowledge that Country North needs more water to maintain a normal lifestyle and does not have access to alternative supplies i.e. bores. The average usage for Country North customers is approximately 200 kL/year greater than the average in Country South. The additional concession for Country North was provided on prices in the 350 – 550 taper.

Refer to Section 2.1.3 for details on the classification of Country North and Country South into 5 different classes.

2.1.2 Commercial water charges

Regulated commercial water charges are a combination of:

- An annual service charge based on service availability and (consistent with metropolitan customers) is determined by the size of the meter serving the property.
- Water consumption charges – country town water schemes are categorised into five classes (consistent with residential classes) where differential water consumption charges apply.

Pricing for efficiency is addressed in the country through the Major Consumer Policy. Major mining and industrial customers with a peak day capacity of more than 49kL per day are charged on the unit cost of augmenting the scheme at their location. Major users, therefore, get the appropriate price signals commensurate with the unit cost of supply.

These major consumer charges are based on a notional scheme costing being the unit cost of expanding capacity by around 20%-30% (not a PV marginal cost approach). While the notional scheme is, in a sense, a second best solution, the move to a PV approach is not practical due to the uncertainties associated with future growth.

There are a number of other tariff structures that depend on use. While this has been considerably simplified in recent years, there are still separate charges for stock/farmlands/local government standpipes, mining, commercial/residential caravan bays, and vacant land. There is also a special tariff for the Denham Desalinated scheme, and there is soon to be a new tariff for commercial properties in Coral Bay.

History of Regulated Commercial Water Charges

On 1 July 1995, a tariff reform for country businesses was introduced that replaced GRV-based service charges, with a water charge service charge based on the size of the meter serving the property and a volumetric charge. This reform was undertaken initially in

metropolitan Perth in 1993 and was extended throughout the State two years later. Several alternatives were considered at the time, with the decision to move towards a state-wide uniform service charge based on meter size preferred because:

i) At the time, 57% of the meters were located within Class 1 towns and a further 24% within Class 2. It was felt that the revenue benefit ($1 million) from the differentiation of charges between the five classes would not provide sufficient benefit to justify complicating the system of charges, coupled with the potential discouragement of businesses within Classes 3, 4 & 5.

ii) In line with the metropolitan tariff structure, charges based on meter size were preferred as this was a reasonable approximation for the cost differentiation of supply capacity.

User-pays charges are generally viewed as the most equitable way of distributing costs between business customers. Many reforms have been put in place so that companies can compete on a level playing field. Volumetric charges are in two steps (greater than, and less than 300kL), based on the cost classes but are significantly less than the average costs the charges are based on.

The difference between the 600kL taper threshold used in metropolitan Perth and the country taper (300kL) is a carryover from the differentiation that applied when the services were being provided by two separate organisations.

Refer to Section 2.1.3 for details on the classification of Country North and Country South into 5 different classes.

2.1.3 Country Classes

Country schemes are broadly categorised into Country North and Country South. Within each group, schemes are further classified into five classes based on a three- year moving average of average costs of supply (not the marginal cost).

Differential consumption charges apply between classes for all consumption in excess of 350 kL (residential, country south), 550 kL (residential, country north) and all non-residential consumption. The differential consumption charges within each class increase in steps. The prices charged for most customers are less than the average cost for that class.

The ERA noted in the Inquiry on Urban Water and Wastewater Pricing (4 November 2005), that the Corporation should provide urban water services at prices that reflect the Long Run Marginal Cost (LRMC) of supply.

Moving to marginal cost for country schemes is problematic with the greatest difficulties being the complexity of the calculation required for each of the Corporation's 236 schemes, coupled with the instability of the result due to the uncertainty of growth.

These difficulties need to be further weighed against the administrative costs of using a marginal cost approach and the fact that price differentiation applies only to consumption in excess of 350kL, being 28% of the total country consumption. The Corporation currently has the systems in place for calculating the average cost for a scheme.

2.2 Wastewater Charges

2.2.1 Residential wastewater charges

In general, the provision of wastewater services to country regions is more expensive than providing that service in the metropolitan region. There are a number of influencing factors, most notably economies of scale, as well as factors relating to the location and the opportunities and constraints that exist there.

Residential wastewater charges have always been based on the Gross Rental Value (GRV) of the property. The rate in the dollar is set independently for each country town sewerage scheme. A limitation of a maximum 12c in the dollar is applied, in addition to an overall cap on the total service charge payable by any individual residential property.

The objective of individual rates for each scheme has been to recover the costs from the beneficiaries of each scheme. However, historically there were differences between schemes in calculating the total cost to be recovered. These differences were largely due to calculating the cost of capital where schemes were funded through grants. These inconsistencies were further complicated by Government imposed limitation's on increases in charges between 1983/84 and 1992/93. The relationship between individual scheme rates and their associated costs diverged over time.

In July 1993 Cabinet approved the introduction of a new charging method for properties in revalued country towns, using a 'cost recovery target', that aimed to realign the relationship between costs and revenue. This resulted in price increases for some towns and decreases for others. Schemes are gradually being moved towards total cost recovery. However, in consideration of the impact on customer budgets, annual price increments are limited to a maximum of 10% plus CPI.

Each year, the average total charge per customer is calculated for each individual scheme. This is compared to the average cost of the service provided (being the total operating cost plus the economic cost of capital investments). The annual price increase (in excess of CPI) is then determined by reference to the following matrix:

Average Residential Sewer Rates	**Less than $200**	**$200 to $300**	**$300 to $350**	**$350 to $500**	**$500 plus**
Less than Total Operating Costs	10%	10%	10%	5%	5%
Less than Ttl Op. Cost + Deprn	10%	10%	5%	5%	5%
Less than Total Cost	2.5%	2.5%	2.5%	2.5%	0%

This matrix results in higher price increase for schemes where customers are currently paying considerably below the actual cost to provide the service and where customers are currently paying a relatively low annual average charge. This mechanism is intended to balance the preference of moving towards total cost recovery, against the social concerns for limiting significant increases for schemes that are already paying a high annual average charge. Again – these price increases are subject to the 12 cent cap per GRV dollar. Furthermore, there is a limit to the increase that any individual customer is required to pay of 10% plus GPI.

Implications of Capping the Wastewater Charge

The ERA has queried the necessity of capping the residential wastewater charges when no cap is in place for metropolitan customers. The cap referred to is twofold:

- An overall scheme cap in the rate / $GRV applied to an individual customer; and
- A cap in the total wastewater service charge for individual properties.

As demonstrated below, each of these caps may be appropriate when social considerations, including customer affordability, are taken into account.

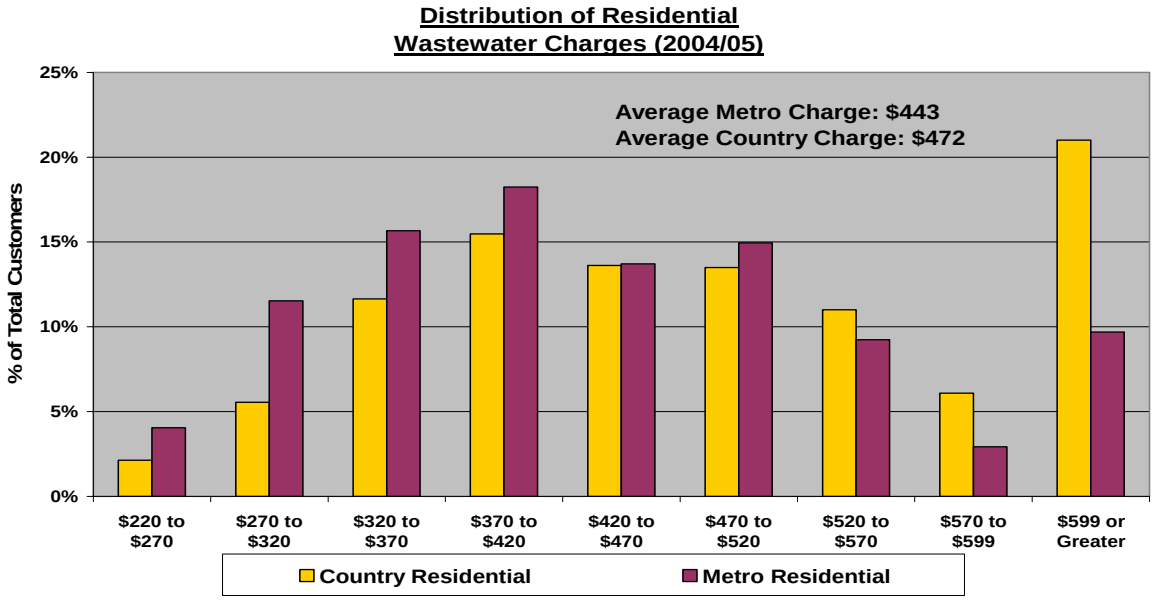
With regards to the overall scheme cap in the rate in the dollar applied to the GRV, this is currently set at 12c for country customers. The rates applied to metropolitan Perth customers are shown below:

	2005/06 Cents in the $ GRV
First $9,300 GRV	5.33
Next $16,000 GRV	3.24
Over $25,300 GRV	1.45

As is evident from the table above, the 12 cent cap afforded to country customers is considerably higher than the rates paid by metropolitan customers.

With regards to the overall cap applied to an individual customer's bill, some country customers would continue to pay 12c/$ for very high valuations compared with the tapered rates of 3.24c/$ and 1.45c/$ in the metropolitan area. A cap is therefore an alternative to a tapered rate structure.

The graph below demonstrates the distribution in the total wastewater charge paid by both country and metropolitan customers. The graph demonstrates that while country customers have a price cap (2005/06: $612, 2004/05: $599), they still pay a higher wastewater service charge on average, with a significant proportion of customers paying a charge equal to the price cap.



2.2.2 Commercial wastewater charges

Annual service charges are based on service availability and determined by the number of major fixtures. A volumetric charge is also applied that is based on the volume of water discharged to the sewerage system. A 200kL free discharge allowance per annum applies to each property attracting an annual service charge.

Prior to 1995/96 both metropolitan and country non-residential customers paid GRV-based charges. In 1995/96 a new charging structure was introduced for metropolitan Perth wastewater businesses, with charges based on the number of major fixtures and the volume of wastewater discharged to the sewerage system. Country customers continued to pay GRV-based charges.

The revised metropolitan charging structure was introduced following research and analysis into other methods of charging for sewerage in other organisations within Australia and overseas.

In 2002 the Expenditure Review Committee requested that the Minister for Government Enterprises establish a working group to examine alternatives to valuation-based charges for sewerage and drainage that included the options for country commercial wastewater charges.

In November 2002, the Joint Working Party considered a number of alternative options for country commercial wastewater pricing and recommended that it was most appropriate to introduce the metropolitan model for country customers. The rationale behind the recommendation was largely based on a preference for state-wide uniform charging, together with the recognition of the advantages of the metropolitan structure.

The country commercial wastewater tariff reform was therefore introduced in 2003/04. It is being progressively phased in with the annual impact on individual customers limited to 10% plus GPI (where the customer's bill is greater than $1,000). The majority (85%) of total commercial customers will have been fully phased in within 10 years.

3. Revenue Requirements

3.1 Total Revenue Requirements

Total country revenue required by the Corporation is generated through a combination of:

- Regulated revenue charges generated from residential and commercial customers
- Community Service Obligation (CSO) payments received from the State Government.

As a commercial organisation, the Corporation seeks to generate total revenue from country operations sufficient to recover the annual operating costs plus, the total economic cost of capital investments. This revenue requirement is calculated on a scheme by scheme basis for each of the Corporation's lines of business.

Annual operating costs for country schemes includes the direct operating costs incurred by that scheme, in addition to indirect costs incurred by regional centres and by the corporate head office. The allocation of indirect costs is based on specific cost drivers to each expense category.

The economic cost of capital investments includes compensation for the initial capital investment, provision for the replacement of that asset and an appropriate commercial return (being the weighted average cost of capital) commensurate with industry expectations. Asset costs traditionally account for around two-thirds of a water utility's total cost, with new capital expenditure representing only a fraction of the existing capital base.

3.2 Community Service Obligations (CSOs)

The objective of the CSO arrangements is to compensate the Corporation for undertaking non-commercial activities.

A significant advantage of the CSO arrangement is that it adds transparency to the actual cost of the service provided (including increased levels of service) in circumstances where the cost is not recovered from customers. Additionally, the CSO payment initiative unwound the cross-subsidy from metropolitan business customers that had funded the ongoing country losses being incurred by the former Water Authority.

The CSO payment is vital in sustaining the Corporation's commercial performance. This was clearly recognised in developing the financial framework for the water industry restructure in 1995. Arrangements were put in place for the payment from the Consolidated Fund to make up the short-fall between revenue and costs for country-loss making services, infill sewerage, and the cost of providing concessions to various customer groups.

The Corporation's CSO arrangements are regarded as the most advanced of any Australian water utility by the industry association, the Water Services Association of Australia. The cost of providing uncommercial services is explicitly recognised; there is a mechanism to encourage improved performance, and there is provision for payment for new CSOs and additional service levels required by the Government or regulation. The National Competition Council has approved these CSO arrangements as part of the second tranche assessment.

The ERA's paper makes the statement: "In 2004/05 CSO payments amounted to $288 million. This amount compares to dividends paid by the Corporation to the Government of $292 million in 2004/05" (section 2.2, page 5).

However, there is no direct relationship between the amount of the CSO payment paid and the Corporation's dividend distributions. The Corporation's dividend distributions are based on its total operating results, a significant proportion of which is derived from the operating performance of metropolitan Perth. Any similarity between the value of the CSO and dividend payment is purely coincidental.

The total CSO payment to the Corporation is the sum of:

i) Losses on Country Services (incl. new CSOs and improvements in standards);
ii) Payment for losses on the Infill Sewerage Program.
iii) Payment for revenue concessions.

The forecast CSO payment is broken down as follows:

	2005/06 $M
Country Loss	218.5
Infill Sewerage Program	74.9
Revenue Concessions	29.6
New CSOs	17.4
TOTAL	**340.4**

Losses on Country Services

Two components make up the payment for country losses:

i) Payment for providing existing services at the current standard.
ii) Payment for new CSOs and improvements in standards.

Payment for Providing Existing Services

The CSO payment for providing existing services is calculated on the actual loss incurred. This calculation is performed every four years (known as a rebase year) with the loss estimated between rebase years using a payment formula. This part of the payment compensates the Corporation for the actual cost of providing the existing level of service, and funds capital expenditure to cater for growth and asset replacement.

The latest rebase was for 2005/06, calculated on the actual performance of country schemes in 2003/04. In between the rebase years, the CSO payment formula takes the actual economic loss on a base year and adjusts the payment each year for the following:

Base Year Actual Cost	= Operating + Depreciation + Return on Assets
	+ Growth + Inflation – Productivity
minus	
Base Year Actual Revenue	= Bylaw + Special Agreement
	+ Growth + Customer Price Changes

This is calculated on a scheme by scheme basis. The total economic cost (i.e. both the operating cost plus the cost of capital) includes the direct cost incurred by a scheme in addition to an allocation of regional and corporate support costs. Allocated costs are based on a several cost drivers dependant on the nature of the expense.

A target reduction in real cost per assessment is built into the formula. An efficiency incentive of this nature is an essential feature for any CSO arrangements.

Increases to country by-law prices flow directly to a reduction in the CSO payment. Any movement in the regulated revenue generated in the country is offset by an equal and opposite movement in the CSO payment. Therefore, from the Corporation's perspective, the annual price increase has no impact on the financial performance of loss making country schemes.

New CSOs and Improvements in Standards

An additional payment is made for new schemes or projects that increase the level of service to customers from the standard that was in place in the base year. The Minister or Cabinet approves each project and the Corporation is compensated based on the actual cost of constructing and operating these new assets.

A level of service that was not being provided during the base year does not include projects that are for *normal* asset replacement or regulated growth (unless they are abnormally expensive).

Typically, items that qualify as a new CSO and/or improvements in standards are:

- New Country Schemes: any new towns or areas that are required to be serviced and are not included in the existing base payment.

- Abnormal Cost: unusually large expenditure on projects that are for asset replacement or servicing regulated growth in the town. To qualify as an Abnormal Cost CSO, the cost per service of the replacement must exceed the existing average cost per service by more than 20%.

- New Conditions (Externally Imposed due to Regulation): any project that is a result of adhering to *legislation* or *regulation* that has been imposed on the Corporation. The standards and regulations must be legally binding.

- Improved Level of Service: this can encompass any project contributing to an improved or higher level of service to the community or environment than what was previously provided. The Corporation is not obligated to provide standards over and above the conditions in the Operating Licence. If there is a community request for an improved level of service, the Corporation negotiates with the community and the Minister to identify potential contributions.

- Ministerial Directive: covers all projects that arise due to a statement or directive from the Minister where a promise of delivery has been made to the public.

Infill Sewerage Program

The Corporation makes a loss on the provision of the Infill Sewerage Program. This program takes in both the metropolitan and country regions. The higher cost of retrofitting sewerage to suburbs and the absence of sewerage headwork contributions means that these services lose money based on the by-law sewerage rates alone.

The payment to compensate for the loss is based on the marginal cost of providing the services, and includes direct operating expenditure, depreciation and return on the new assets *minus* the additional revenue from the new lots. Therefore, there is no impact on country customers' by-law sewerage rates as the additional cost is recovered via a CSO payment.

Customer Revenue Concessions

Some customers (e.g. pensioners, charities) are provided with concessions on the standard by-law charges. These concessions are provided on the basis of Government policy.

The CSO payment for these concessions is calculated as the difference between the standard charges and the concessional charge, *plus* the cost of administration.

This applies to both metropolitan and country concessions. Any changes to the by-law concessions afforded to any customers will be matched with an equal and opposite change to the CSO payment.

4. ERA Issues Paper Questions

The Water Corporation's primary issues regarding country water and wastewater pricing are revenue sufficiency, administrative simplicity and customer acceptance. As the country tariffs are backed up with the CSO arrangements, the level of country charges are a decision for the State Government. The Corporation's response to many of the questions below is answered in this context.

Questions	Issues Paper Reference	
	Section No.	Page No.
Uniform Residential Water Charges		
• Are you satisfied with the current application of uniform tariffs to all residential customers throughout the State who use up to 350 kL/year? If not, at what level of water usage would you prefer to see the uniform tariff policy apply?	2.4	7
The decision to apply state wide uniform tariffs for residential water consumption is based on the principle of ensuring all West Australian's, regardless of where they live, have access to high quality drinking water at affordable prices. *For further information - see section 2.1.1 of this submission.* *Point for Clarification – implications of applying the recommendations of the Urban Water and Wastewater Pricing* *The Country Issues Paper (section 2.4, page 7) discusses the potential implications of the country region adopting the recommendation made by the ERA in their Urban Pricing Submission. This would involve all residential customers paying a uniform rate of 82c/kL for the first 550kL consumed.* *The Country Issues Paper comments that applying such a structure would result in Country South (referred to by the ERA as Group A) customers paying a higher charge (on average) than they are currently. Country North (Group B) would see their charges reduced.* *In actual fact, on average, both Country North and Country South residential customers would pay a higher consumption charge if the urban pricing recommendations were adopted in the country. This is because all country customers pay state wide uniform rates on the first 350kL, at consumption rates considerably lower (2005/06: 42.5c/kL and 68.9c/kL) than the 82c/kL recommended in the urban submission*		

• Do you think the current approach of providing different thresholds to different customer groups for the purpose of charging prices that are more cost reflective is appropriate? If not, what approach would you prefer to see applied? *The cost to supply water to country schemes varies significantly throughout the State. This is due to a combination of factors, including geographical location, climatic conditions, economies of scale and the availability of water sources.* *Additionally, customer usage varies between schemes dependant (in part) on the climatic conditions experienced by each town.* *As a state- owned utility – social, environmental and economic implications are considered in the pricing decisions. The social obligation of providing affordable potable water must be balanced against the environmental impacts of source development and the economic cost of providing that service. The different thresholds for different customers strive to achieve such a balance. The current country price structure rarely results in customers paying the total cost of providing the service.* *Furthermore, using the average, actual cost (as opposed to marginal cost) is the preferred approach to distinguishing between customer classes for several reasons, including the relative simplicity of the calculation and stability of the result.* *For further information - see sections 2.1.1 and 2.1.3 of this submission.*	2.4	7
• Are you satisfied the current charging arrangements for pensioners, who receive a 50 per cent concession on water usage up to 150kL/year in Perth, 400 kL/year in Group A and 600 kL/year in Group B? If not, what alternatives would you prefer? *Until 1985, metropolitan and country regional services were provided by different organisations – the Metropolitan Water Authority (metropolitan Perth) and the country water supply division of the Public Works Department (country). The concessions afforded to pensioners reflects a continuation of past differences between country and metropolitan customers:* ➢ *Pensioner concessions were introduced in the country in 1983/84. These were calculated as 50% off the first 400kl for Country South customers and 50% off the first 600kl for Country North customers.* ➢ *400kl and 600kl was set by calculating the average water use in Country South and Country North, then adding 50kl to take the respective allowances above the 350kl and 550kl tapers.*	2.4	7

➢ *The concept was to provide the majority of customers with a concession, but limiting it so that excessive water users were not provided with a concession on their 'excessive' water use.* ➢ *Metropolitan pensioner concessions were introduced in 1993/94. This was introduced as a way of limiting the adverse impact on pensioners when the 150kl free allowance was removed.* *Given the similar climatic conditions experienced by metropolitan Perth and Country South, there is no reason for different concessions to apply to pensioners in those schemes.* *The alignment has not been done because of the revenue impact in metropolitan Perth if the threshold were to be increased to 400kL, and the financial impact on customers in the country if their threshold were to be reduced.*		
Country Town Water Usage Charges		
• Do you think that the current approach to setting country residential water usage charges above the uniform tariff thresholds is appropriate? If not, how should those water usage charges be set? <u>*Uniform Tariff Charges for "essential use" Consumption*</u> *The current tariff structure is intended to charge all residential customers at affordable rates for water consumption considered "essential use", regardless of where they live in the state. Separating the schemes into Country North and Country South recognises the fact that what is considered essential use differs for country schemes depending (in part) on their climatic conditions.* <u>*Principle of Setting Non-essential use based on Cost*</u> *Consumption in excess of the "essential use" levels is charged at higher rates, increasing in steps within each class. Schemes are distinguished based on the climatic conditions experienced (Country North and South) and the total average, annual cost (Classes 1 to 5). The prices charged for most customers is less than the average cost for that class.* *As detailed in Section 2.1.3, country schemes often have unique circumstances, including the uncertainty of growth and a lack of availability of new sources. This makes the determination of a scheme's marginal cost of supply difficult to determine, being highly sensitive to changes in circumstances.* *Additionally, the complexities associated in determining the marginal cost compared with using the actual cost (for which the Corporation has the systems in place to determine) means determination of prices*	3.2.1	12

based on the cost of supply is preferred over marginal cost differentiation. This preference is furthered when considering that differential charging only applies to 28% of the country water consumed. *Refer to sections 2.1.1 and 2.1.3 of this submission*		
• Do you think that the current approach to setting country commercial water usage charges is appropriate? If not, how should those water usage charges be set? *The country commercial water consumption tapers basically reflects the structure inherited from systems derived more than 20 years ago, when the country and metropolitan water services were provided by two separate organisations.* *Regulated charges only apply to customers who use less than 50kL/day. Major mining and industrial customers are required to enter into bulk water supply agreements that reflect the notional cost of supply.* *Refer to section 2.1.2 of this submission.*	3.2.2	13
• Does the current classification of country towns into classes appear appropriate? If not, how should country towns be allocated to classes for the purpose of setting water usage charges? *Refer to section 2.1.3 of this submission.*	3.2.3	15
• What methodological issues need to be considered when setting usage charges that apply above the uniform tariff threshold for country residential water customers and for usage charges that apply for country commercial water customers? *Country scheme tariffs above the uniform tariff threshold are differentiated based on their climatic conditions and the cost of supply. Despite the differentiation for high use consumers, the Corporation still does not recover the total cost of supply – the prices are still not completely cost reflective.* *The Corporation recognises that few country schemes are alike. Accordingly, it may be more appropriate to set individual charges for each scheme. Schemes may be differentiated based on the actual cost of supply or the marginal cost.* *To avoid complexity and to provide price stability, as discussed in section 2.1.3 and previously considered under the "Principle of Setting Non-essential use based on Cost" (above), the Corporation does not recommend using marginal cost.*	3.3.3	16

Other methodological issues that need to be considered include the administrative difficulties in determining, monitoring and charging individual schemes. The potential for customer confusion and the administrative task of managing customer's concerns also needs to be considered. *Finally – consistency across customer groups, as well as across time (that is, from year to year) also needs to be considered.* *The current class structure for differential prices above the uniform tariff threshold is preferred as it provides a balance between the need for simplicity and consistency, yet still provides a sufficient price range to enable differentiation between schemes with different costs. This too, needs to be considered in light of the fact that consumption above the uniform threshold only applies to 28% of the total water consumption.*		
Subsidisation • Is there a better way of identifying the extent that the CSOs are paid for the purpose of funding cross-subsidised customers? <u>*Point for Clarification - Cross-subsidisation*</u> *With regards to the issues paper, the Corporation understands that the ERA's definition of cross-subsidisation is, "when they [customers] do not at least pay the direct costs associated with servicing them." (section 3.4, page 17)* *Therefore, for the sake of clarification, cross-subsidisation as referred to by the ERA does not describe the situation where one customer is paying a portion of the cost incurred by another customer (thereby reducing the amount payable by that other customer).* <u>*CSO Methodology*</u> *The largest proportion of the CSO payment is the country loss portion. This represents the total economic cost (net of the regulated revenue received) incurred in providing services to country schemes.* *This net loss is calculated for each scheme. It is based on the total economic cost of providing the service, including operating costs, depreciation charges and an appropriate commercial return on the assets invested. Both direct and allocated costs are included.* *The CSO country loss payment ensures the Corporation receives the appropriate return from the country schemes and that metropolitan Perth customers do not subsidise the cost of country operations.*	3.4	19

Furthermore, the CSO arrangements provide transparency regarding the actual cost of the service provided (including increased levels of service) in circumstances where the cost is not recovered from customers. *For further information - refer to section 3.2 of this submission.*		
• What principles should guide the payment of CSOs? *As discussed under the CSO Methodology and detailed further in section 3.2 of this submission, the primary principles guiding the payment of the CSO include:* ➢ *Compensation for undertaking non-commercial activities.* ➢ *Transparency of the total net impact of the service provided. The cost of providing uncommercial services is explicitly recognised.* ➢ *Cost reflectivity of the actual cost of the service. Not only does this aid transparency, but also prevents the cross-subsidisation by either the metropolitan scheme or between country schemes.* ➢ *Administrative simplicity.* ➢ *Provision for payment for new CSOs and additional service levels required by the Government or regulation.*	3.4	19
Country Commercial Water Service Charges • Do you think that the way the water service charges are set for country commercial customers is appropriate? If not, how should these charges be set? *Commercial water service charges are applied uniformly state-wide based on service availability and determined on the customer's meter size.* *In 1994/95 the Metropolitan Commercial Water Tariff Reform was extended to the Country. The Water Authority (the Corporation's predecessor) sought to phase out GRV- based charges and developed a number of options for Country commercial water customers.* *The Authority considered options for differentiating charges based on meter size, as well as differentiating charges based on town location (i.e. using the town class system).* *Because more than 57% of meters were located in Class 1 towns and 24% in Class 2 towns it was considered the revenue benefit*	4.3	21

(approximately $1m) from the differentiation of charges was not sufficient to justify complicating the system. Additionally, it was not considered substantial enough in view of the complaints that would be generated from customers in towns 3, 4 and 5. *For further information – see section 2.1.2 of this submission*		
Country Residential and Vacant Land Wastewater Service Charges • Are you satisfied with the current charging arrangements for country residential wastewater services? If not, what charging arrangement would be more appropriate? *Residential wastewater charges have always been based on the Gross Rental Value (GRV) of the property. The rate in the dollar is set independently for each country town sewerage scheme. The rate is capped at a maximum of 12c in addition to an overall cap on any individual customer.* *In July 1993 Cabinet approved the introduction of a new charging method for properties in revalued country towns, using a 'cost recovery target', that aimed to realign the relationship between costs and revenue. At the time, applying a fixed charge was considered but rejected due to the impact this might have on lower, socio-economic customers.* *Whilst the Corporation seeks to recover the total cost on an overall scheme basis, customer affordability remains a primary concern in terms of both the distribution of charges across customers in a scheme and also when considering the annual price increments.* *For further information – see section 2.2.1 of this submission*	5.3	24
• Should country residential wastewater charges be subject to a cap while metropolitan charges are not? If country residential wastewater charges are to be capped, at what level should this cap be set? *In general, the cost of providing wastewater services to country schemes is more expensive than metropolitan Perth schemes. While the Corporation seeks to recover the total cost on an overall scheme basis, customer affordability remains a primary concern.* *The country schemes are capped at a rate of 12c/$GRV. This is considerably higher than the tiered bands of 5.33c, 3.24c and 1.45c charged to metropolitan customers.*	5.3	24

21% of all country customers are limited by the overall cap on the customers total wastewater charge (2005/06: $612.4). 12% of metropolitan customers pay a charge at or above this level. *In light of the above – in the interests of customer affordability, a country cap may be appropriate.* *For further information - see section 2.2.1 of this submission.*		
Country Commercial Wastewater Charges • Do you consider that the Corporation's commercial wastewater charges should be the same across the State? If not, how should these charges be set for country towns? *The ERC requested a working group examine alternatives to valuation based charges for sewerage and drainage. In November 2002 the Joint Working Party considered a number of alternative options for Country commercial wastewater pricing.* *The JWP recommended that it was most appropriate to introduce the Metropolitan model for country customers. Country commercial wastewater tariff reform was introduced in 2003/04.* *For further information - see section 2.2.2 of this submission.*	6.3	27

ATTACHMENT 1

Summary of different types of wastewater treatment processes available.

Wastewater Treatment Process employed	Process Description	Treated Effluent Quality	More Suitable Applications	Relative Capital Costs	Relative O&M Costs	Land Requirements	WC Operating Regions where used most
Facultative Pond Processes	A passive biological and physical separation process in which solids and organic strength (BOD) are reduced. Facultative pond treatment processes are generally very low maintenance.	Low-Moderate	• Small & very small towns, • Remote locations, • Where large amounts cheap land are available with adequate buffers • Dry areas, • Less environmentally sensitive areas	Low-Moderate	Low	Large-Very large	North West, Mid West, Goldfields and Agricultural, Great Southern
Activated Sludge Processes (Includes Conventional Activated Sludge, IDEA Plants, and Oxidation ditches)	An active biological and physical separation process in which solids, organics (BOD) and nutrients are greatly reduced. Activated sludge treatment processes are energy intensive but have a small footprint.	Good – Very Good	• Larger towns, • Limited land available or high land values • Wet climates, • Environmentally sensitive areas where wastewater is to be discharged to surface waters or groundwater • Where high levels of Nitrogen removal are required.	Moderate-High	High	Small	Perth, South West

ATTACHMENT 1 con't

Summary of different methods available for disposing of treated wastewater.

Treated Wastewater Management Technique	Suitable Applications	Relative Capital Costs *	Relative O&M Costs *	Treatment Generally Required	Operating regions where used Most
Reuse – Parks, gardens, Golf Courses, public open space, etc	• Where suitable irrigable areas exist and the local Shire, Golf Club, etc is interested in entering a reuse arrangement. • Where demand exists – i.e. no cheap groundwater alternative available	Very high.	High.	Either - Facultative Pond or Activated Sludge PLUS Filtration and Disinfection	All Regions - where opportunities exist
Reuse – Woodlots	• Where enough suitable land is available within reasonable distance of WWTP (preferably<15km).	High	High	Either, Facultative Pond, Activated Sludge PLUS Disinfection	Great Southern, South West
Evaporation	• Only where annual net evaporation>>rainfall. • Small towns	Low-Moderate	Low	Facultative Ponds	North West, and Mid West.
Infiltration	• Only where sandy soils exist, and downstream environment will not be adversely impacted. Typically coastal dunes and on the Swan Coastal Plain outside drinking water source areas.	Low	Low	Either - Facultative Pond or Activated Sludge	Mid West, Perth, South West,
Surface Water Discharge	• Small inland country towns. • Less environmentally sensitive areas, where no reuse opportunities exist.	Low	Low	Either - Facultative Pond or Activated Sludge PLUS Disinfection	Goldfields and Agricultural, Great Southern, Mid West, North West

** Costs are for treated wastewater management only and do not include treatment costs.*