Draft Report

Inquiry into Developer Contributions to the Water Corporation

14 April 2008

Economic Regulation Authority
WESTERN AUSTRALIA

A full copy of this document is available from the Economic Regulation Authority web site at www.era.wa.gov.au.

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Executive Summary

The Treasurer gave written notice to the Authority on 17 October 2007 to undertake an inquiry into the Water Corporation's developer contributions. This report presents the Authority's draft recommendations and invites interested parties to provide a submission to the Inquiry.

Developer contributions take the form of cash payments (often referred to as "developer charges") or transfers of reticulation assets from a developer to a utility (often referred to as "handover works" or "gifted assets"). Developer charges include charges to recover part of the infrastructure costs incurred to meet demand from new developments (often referred to as "headworks charges") and charges for bringing forward new developments ahead of schedule (often referred to as "out of sequence charges"). In the case of major customers, charges in the nature of developer contributions are referred to as "capital contributions".

Principles for Developer Contributions

As part of this inquiry, the Authority was asked to establish a set of principles that can guide the setting of developer contributions for the Water Corporation. Developer contributions are only one source of revenue for a utility. Other sources include annual service charges and charges that vary depending on usage. As regulated utilities are typically monopolies, it is generally a regulator's role to ensure that the total revenue from all sources, including developer contributions, is set to recover the utility's efficient costs.

Ensuring that total revenues equal total costs may require some rebalancing of charges. A principle that can be applied in doing this is to alter the charges that are least likely to influence decision making. Annual service charges and charges for low amounts of usage fall into this category. Developers may also be relatively insensitive to the level of developer charges in comparison to other factors that influence decisions about where to develop, such as land-use planning decisions, environmental clearances and proximity to local amenities and roads.

In developing principles for developer contributions, the Authority has been guided by three objectives.

- The first is economic efficiency, which involves setting charges in a way that appropriately influences developers' decisions to invest.
- The second objective is the promotion of equity, which relates to considerations such as affordability to the purchaser of the developed land and regional development.
- Thirdly, the Authority has had regard to good regulatory practice, such as transparency and accountability, which support the charging arrangements. The administration costs associated with developer charges, for both the utility and developers, must also be taken into account.

Efficiency

In considering efficiency, it is important to note that, for a given distribution of wealth and income, social welfare will be maximised when prices are set efficiently, because goods and services will be allocated to those who value them the most. Any deviation away from setting prices on economic efficiency grounds – for example, to subsidise prices to

different groups – will result in a net loss in welfare overall. While some groups will benefit from cross-subsidies, there will also be losers.

An important efficiency principle is the establishment of a nexus between the charges faced by a developer and the cost consequences of the development decision. This is easier for some types of investment than others.

- In the case of reticulation assets within a development, it is clear that these should be paid for by the developer, as these are specific to the development. Likewise, the costs of connecting assets (e.g. mains extensions and pumping stations), if they are exclusively linked to the development, they can also be attributed to the developer.
- However, it is less clear how a particular development contributes to the need for expenditure on transmission assets that service more than one development. Similarly, source assets that are needed to service population growth or improve system security are more tenuously related to specific developments.

Source costs are likely to be better signalled through usage charges than through developer charges, because all users contribute to the need for supply augmentation, not just new customers. In the case of water, usage charges are based on the long run marginal cost (LRMC) of future water sources. Water consumers could end up paying twice if they paid usage charges on the basis of LRMC and also had included in their land prices a component that reflected developer charges influenced by source costs.

Ideally, each scheme would have a plan outlining the likely developments and the expected future costs associated with those developments. However, because there are economies of scale in network infrastructure, it is efficient to over-size capacity augmentations, in anticipation for future growth. This complicates the setting of developer charges.

On efficiency grounds, developers should face at least the forward-looking direct costs of development in each location. The additional costs and risks arising from over-sizing capacity are more appropriately borne by the utility (and recovered from those for whom the extra capacity was provided). This can also be seen to be equitable, as it is consistent with the “user pays” principle. In addition, setting developer charges in this way would result in lower charges where there is existing spare capacity – which sends the right signal to the developer.

It is appropriate that developer charges reflect any additional costs associated with bringing forward a new development ahead of a development schedule (“out of sequence development”). However, it is important that such charges are derived in a transparent fashion and based on clearly identified development schedules and costs.

In practice, it may be too costly to set developer charges in accordance with a development servicing plan for each scheme. Instead, it may be appropriate to use a proxy for future development costs for each scheme.

In summary, the efficiency principles are:

a) Where usage charges reflect the costs of source development, these costs are likely to be better recovered through tariffs than through developer charges.

b) The costs of enhancements to the transmission network are likely to be better recovered through tariffs than through developer charges, to the extent that all connected customers contribute to the need for these costs to be incurred.

c) Developer charges, if set efficiently, should at least cover the direct forward-looking costs of providing services to each new development. Any risks associated with the additional costs of over-sizing assets to meet future demand growth should be borne by the utility, and the costs recovered from those for whom the spare capacity was provided.

d) Developer charges should cover the costs associated with bringing forward new developments ahead of a development schedule.

e) The setting of all charges (including developer charges) needs to be mindful of the need to achieve an optimal utilisation of the existing network (technical efficiency).

f) The benefits of implementing a developer charging methodology should outweigh its administrative costs, including transition costs.

Equity

Charges set on the basis of efficiency principles could be adjusted to address equity concerns. If, for example, developer charges were set to reflect development costs in each location, some areas, such as high cost country schemes, would face relatively high charges. An equity consideration is therefore whether a Community Service Obligation (CSO) payment should be made to the utility to cap the charge, just as a CSO is paid to the Water Corporation in compensation for setting annual service and usage charges on the basis of the Uniform Pricing Policy (UPP). In water, the UPP is intended to ensure that all households in WA have access to an essential amount of water at an affordable price. Similarly, households in WA pay a uniform price for electricity. However, the Authority does not consider that it is an intent of the UPP that developer charges should be uniform, since people have access to affordable water wherever they decide to locate. In addition, the current variation in developer charges (e.g. in high cost development areas in water, and edge-of-grid developments in electricity) indicates that it is not the objective of the UPP to subsidise new developments.

A related equity consideration is the Government's Regional Development Policy. Under this policy, a Regional Headworks Program provides grants to small to medium commercial and industrial projects in regional areas towards the costs of connecting to essential services infrastructure. In the case of country water services, the Government has capped the charges for levels of water usage above the uniform tariff threshold (300 kL per annum for households in the southern part of the State) for equity reasons and has funded this policy through a CSO payment. Further, the Government has capped and subsidised developer charges for Western Power's edge-of-grid customers and funded this through a CSO payment. It is a matter of government policy as to whether a similar arrangement is introduced in relation to developer charges for water. However, such use of CSOs comes at a cost, and needs to be assessed against alternative uses of government revenue. The Authority considers that subsidising regional developer charges is unlikely to produce a net welfare gain for the State, as it is, among other things, a move away from cost reflective pricing.

Another equity principle is that any changes to developer charges to bring them into line with the principles outlined above may be phased in over a number of years so that consumers do not face excessive price shocks, although any delay in the move to efficient pricing would incur welfare losses.

In summary, the equity principles are:

g) Government social policy objectives (such as regional development) may be funded through CSO payments and transparent subsidies, although any move away from cost reflective pricing is likely to result in a net welfare loss.

h) When implementing changes to developer contributions polices, service providers should mitigate the impacts on customers, particularly those on low incomes, for example, by phasing in changes to tariffs over time, although any delay in the move to efficient pricing would incur welfare losses.

Good Regulatory Practice

Good regulatory practice would require developer charges to be based on a transparent and easily understood methodology, which is stable and predictable. In addition, the charges should be set on the basis of an effective consultative process and the charge should be able to be contested through an appropriate appeals mechanism.

Good regulatory practice principles include:

i) The setting of developer charges and developer charging policies should involve effective public consultation.

j) Developer charges and developer charging methodologies should be subject to independent regulatory scrutiny.

k) Service providers should be accountable for money raised through developer charges.

l) Developer charges and developer charging methodologies should be transparent to stakeholders.

m) Developer charging policies should incorporate a mechanism for appeals against the charges and their coverage.

Advice on the Water Corporation's Developer Charges

The second part of the inquiry is to establish developer charges for the Water Corporation. The Corporation charges Standard Headworks Charges (SHCs) for water, wastewater and drainage services across the State, whereby developers contribute a fixed amount per unit of additional demand towards the costs of major infrastructure investments. In areas where development costs are particularly high, non-standard headworks charges are applied. Additional out of sequence charges apply for bringing forward developments ahead of schedule.

The Corporation has proposed two alternative methods for determining headworks charges. Under both options, charges would be based on the value of existing distribution assets and exclude the costs of transmission and source assets (currently, they are based on 40 per cent of the value of total infrastructure assets). The Corporation has argued against any move towards forward-looking costs as a basis for headworks charges, on the grounds that the information on future costs is highly uncertain and expensive to obtain.

- Under Option 1, which is the Corporation's preferred approach, standard headworks charges for water and wastewater services would apply, with non-standard headworks charges applying to higher cost areas.

- Under Option 2, headworks charges would be set for each individual scheme, with non-standard headworks charges applying to areas where development costs are above the average distribution cost for the scheme. (For example, where a scheme is a regional town, all developments connecting to that town's network would pay charges based on the average distribution costs of that network. The Perth metropolitan area is one scheme.) The Corporation has also proposed a policy to enable developers to be reimbursed by other developers who benefit from a mains extension at a later date.[1]

In assessing the Corporation's proposed options, the Authority has considered the general principles of efficiency, equity and good regulatory practice.

There are several efficiency issues.

- Source costs are excluded from both proposed options, and this is consistent with the principle that these costs are likely to be better recovered through tariffs than through headworks charges.
- There is the potential under Option 2 to signal to developers the costs of developing in each location (i.e. depending on the scheme to which they are connecting). Under Option 1, which has State-wide uniform standard headworks charges, locational price signals are limited to those areas where non-standard headworks charges apply, while under Option 2 headworks charges show significant variation by location.
- However the headworks charges under Option 2 are based on historical costs and may not be a good proxy for forward-looking costs in some situations, such as where the density of the new development differs from the existing scheme, or where a scheme has considerable spare capacity.

The Authority recommends that a modified Option 2 be investigated, in which the developer charges under Option 2 are adjusted to take into account existing spare capacity. This approach, supplemented by the minor works cost sharing policy, and periodic reviews to check that development costs match revenues from developer charges, could provide a reasonable proxy for forward-looking costs.[2]

Several submissions recommended differentiating developer charges on the basis of the water efficiency of new developments, to provide an incentive for developers to use water sensitive urban design (WSUD). As a general principle, the Authority considers that it is customers, through their decisions on water usage, rather than developers, who are the decision makers best placed to influence when new sources are developed. However, the use of WSUD should be considered on the same basis as other options for balancing supply and demand. In addition, where WSUD principles result in savings to the Corporation in distribution costs, these savings should be reflected in developer charges.

A key equity issue under a modified Option 2 is whether it is considered fair for customers to pay developer charges reflecting local development costs. The Corporation has indicated that the Government could choose to subsidise higher charges under Option 2 directly through transparent CSOs. Tariff impacts of a modified Option 2 would need to be further investigated, with any changes phased in over time.

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1 The proposed minor works cost sharing policy would establish a pool of funds from developers to distribute development costs between developers.

2 Periodic reviews could be in the form of the triennial review by the Authority of the Corporation's prices.

In terms of good regulatory practice, the developer charging approach would benefit from periodic regulatory reviews, public consultation, and a mechanism for appeals against charges. While Option 1 is simpler than Option 2, transparency can be ensured by publishing the methodology and inputs for each charge. Transparency could also be improved in the application of non-standard charges.

The Authority has considered other approaches to developer charges and has concluded that none of these offer significant advantages over a modified Option 2.

- In the WA electricity industry, there is a formal test to establish whether a headworks charge is required for a scheme, which includes establishing whether new customers will be paying enough through their tariffs to pay for the development costs. However, the approach is more administratively complex than a modified Option 2.
- In New South Wales, the Independent Pricing and Regulatory Tribunal (IPART) approach appears to entail considerable administrative costs associated with establishing development servicing plans.
- In Victoria, the Essential Services Commission (ESC) approach allows for developers to pay a uniform developer charge, which has the advantage of simplicity. However, the ESC does not allow for developers to levy higher charges on the basis of the direct costs of a development (unlike the Water Corporation's proposed approach, which would retain the provision for non-standard charges in areas where historical development costs are a poor proxy for future development costs).

The Authority received few comments on the developer charges to major country customers, although some submissions recommended greater transparency and timeliness in negotiated arrangements with the Corporation. The method applied by the Corporation to major country customers involves establishing an average cost of expanding the network to meet large increments in peak demand, which addresses the issue of having charges fluctuate depending on the capacity of the existing network. This approach has merit due to its administrative simplicity. However, the Authority seeks further comments from major customers and other interested parties regarding the advantages and disadvantages of the Corporation's charging approaches to major customers compared to a more formal and administratively complex arrangement, such as the approach that Western Power applies to its major customers.

Summary of Draft Principles, Findings and Recommendations

General Principles and Findings for Developer Charges

Efficiency

1) Source costs are likely to be better recovered through tariffs than through developer charges.
2) The costs of enhancements to the transmission network are also likely to be better recovered through tariffs than through developer charges, to the extent that all connected customers contribute to the need for these costs to be incurred.
3) The setting of all charges (including developer charges) needs to be mindful of the need to achieve an optimal utilisation of the existing network (technical efficiency).
4) Developer charges, if set efficiently, should at least cover the direct forward-looking costs of providing services to each new development.
5) Any risks associated with additional costs due to the over-sizing of assets to meet future demand growth should be borne by the utility, and the costs recovered from those for whom the spare capacity was provided.
6) While developer charges are unlikely to be a dominant consideration in the location decision for new developments, such charges are necessary so as to avoid the need for development costs to be recovered from other customers, thereby sending inappropriate signals to those customers and reducing community welfare.
7) Developer charges should cover the costs associated with bringing forward new developments ahead of a development schedule.
8) The correct determination of out of sequence development costs depends on the existence of a clearly defined development schedule.
9) The benefits of implementing a developer charging methodology should outweigh its administrative costs, including transition costs.

Equity

10) The Authority is of the view that the intent of the Uniform Pricing Policy is that households should have access to affordable water for essential needs, and not that developer charges should be uniform.

    It is a matter for government to determine whether developer charges in regional areas should be subsidised in the interests of regional development. However, it is important to note that such decisions come at a cost: any gains from moving away from cost reflective pricing in one area will be offset by welfare losses in other parts of the wider community.
11) The Authority considers that there are unlikely to be net welfare gains across the State from subsidising developer charges in regional areas.
12) When implementing changes to developer contributions policies, service providers should mitigate the impacts on customers, particularly those on low incomes, for example, by phasing in changes to tariffs over time. However, any delay in the move to efficient pricing would incur welfare losses.

Good Regulatory Practice

13) The setting of developer charges and developer charging policies should involve effective public consultation.

14) Developer charges and developer charging methodologies should be subject to independent regulatory scrutiny.

15) Service providers should be accountable for money raised through developer charges, through independent scrutiny and public consultation.

16) Developer charges and developer charging methodologies should be transparent to stakeholders.

17) Developer charging policies should incorporate a mechanism for appeals against the charges and their coverage.

Water Corporation's Standard Headworks Charges

18) The alternative methods proposed by the Corporation for determining headworks charges are an improvement over the current approach in that they are based on distribution costs and exclude the costs of source development.

19) Of the two options proposed by the Corporation, Option 2 is better than Option 1 in terms of economic efficiency, as it provides scope for setting headworks charges which reflect development costs at each location.

20) A modified Option 2, which takes into account existing spare capacity, in combination with the Minor Works Cost Sharing policy, would be a more efficient approach to setting headworks charges. This approach would be less administratively complex than other approaches, such as those adopted by IPART or Western Power, while potentially representing a reasonable approximation of the forward-looking development costs in each scheme.

21) If Water Sensitive Urban Design principles result in savings to the Corporation in the distribution costs of new developments, these cost savings should be reflected in developer charges.

22) A modified Option 2, if implemented, could be supplemented by explicit caps and subsidies to offset high charges in some regions through CSOs. However, such government subsidies should be evaluated against the welfare gains of alternative uses of government revenue.

23) A modified Option 2 should incorporate principles of good regulatory practice, including an independent review process, public consultation, transparency in design and application, and a mechanism for appeals.

Water Corporation's Other Headworks Charges

Rural Subdivisions

24) The extension of the Standard Headworks Charge to rural subdivisions between one and four hectares may be appropriate if the development costs imposed on the Corporation are similar to those of smaller rural blocks. However, the Authority would like to further examine the Corporation’s analysis of development costs for rural subdivisions.

Out of Sequence Developments

25) The Corporation's developer contribution policy should continue to provide for developers to bring forward projects ahead of the development schedule if the developers are willing to bear any associated additional financial cost and risk.

Major Country Customers

26) A notional cost approach to setting headworks charges for major customers on a scheme by scheme basis could achieve an appropriate balance between cost reflectivity and administrative complexity.

27) The charging method for major customers should be transparent (the way in which notional costs are calculated should be clearly understandable by stakeholders).

28) The Authority seeks further comments from major customers and other interested parties regarding the advantages and disadvantages of the Corporation's charging approaches to major customers compared to alternative approaches, such as that applied by Western Power to its major customers.

Temporary Connections

29) If there are substantial development costs required for a temporary connection, such as for the construction of assets specific to that connection at costs greater than average distribution development costs, then these should be charged to the developer making use of the temporary connection. Otherwise, temporary connection charges should be linked to standard headworks charges. The Authority is intending to investigate further the cost-reflectivity of existing charges for temporary connections.

1 Introduction

The Treasurer of Western Australia gave written notice to the Economic Regulation Authority (**Authority**), on 17 October 2007, to undertake an inquiry into the Water Corporation's developer contributions.

The inquiry has been referred to the Authority under Section 32 of the *Economic Regulation Authority Act 2003* (**Act**), which provides for the Treasurer to refer to the Authority inquiries on matters related to regulated industries (i.e. water, gas, electricity and rail industries).

1.1 Terms of Reference

The Terms of Reference for the inquiry are provided in Appendix 1.

In accordance with the Terms of Reference, the Authority is to consider and report on:

1) the general principles underpinning developer charges for government businesses and the approaches to developer charges adopted by water regulators in other jurisdictions and by other utilities in Western Australia, as well as the work that is done on a national level as part of the National Water Initiative Agreement;
2) whether standard headworks contributions are an efficient and equitable funding mechanism for the provision of water, wastewater and drainage infrastructure, or whether alternative pricing structures have the potential to encourage more efficient urban development through cost reflective price signals;
3) the ongoing use of special developer contribution area charges for development in areas having particular local conditions and local requirements;
4) the efficient and equitable recovery of the cost of minor works (connecting works) for frontal and out of sequence developments, having regard to the appropriate cost and risk sharing arrangements between different developers over time;
5) major customer charges for development of infrastructure for high volume customers in country areas; and
6) headworks contributions for temporary connections to Water Corporation services.

The Authority is required to make recommendations on the most appropriate method to calculate the Corporation's developer charges and, for headworks charges only, make recommendations on the appropriate level of charges to apply from 1 July 2008.

In undertaking the inquiry, the Authority recognises section 26 of the Act, which requires the Authority to have regard to:

- the need to promote regulatory outcomes that are in the public interest;
- the long-term interests of consumers in relation to the price, quality and reliability of goods and services provided in relevant markets;
- the need to encourage investment in relevant markets;
- the legitimate business interests of investors and service providers in relevant markets;
- the need to promote competitive and fair market conduct;
- the need to prevent abuse of monopoly or market power; and

- the need to promote transparent decision making processes that involve public consultation.

1.2 Background to the Inquiry

The Authority has undertaken a series of inquiries into the Water Corporation's metropolitan and country water and wastewater prices. The final reports of each of these inquiries are available on the Authority's web site. As a result of previous water and wastewater pricing inquiries:

- metropolitan water usage charges are moving towards long run marginal cost, which is the marginal cost of future water sources;
- the number of steps in the water tariff schedules (both residential and non-residential) is being reduced over time;
- charges in country towns for water usage above the uniform threshold will be more closely related to the costs of providing the water service; and
- in general, water and wastewater tariffs are being set as closely as possible to the costs of delivering the service (with the exception of the uniform tariff policy, property value based charges for wastewater, and caps on country water and wastewater charges).

This inquiry into developer charges fits into the broader pricing review process.

The inquiry also fits in with the National Water Initiative process, which requires State Governments to either set or review all water charges, including charges to developers, and remove or at least make transparent any cross subsidies.

The timing of the inquiry coincides with the Water Corporation's policy of reviewing its developer charges on a triennial basis.

1.3 Review Process

The recommendations of this inquiry will be informed by the following public consultation process:

- The Authority published an issues paper on 31 October 2007 providing background information on the issues to be investigated in the inquiry, and inviting submissions from stakeholder groups, industry, Government and the general community. Thirteen submissions were received in response to the issues paper. The issues paper and submissions are available on the Authority's web site.
- Public submissions are invited on the matters discussed in this draft report. Submissions are due by 4:00 pm WST on Friday 16 May 2008.
- The Authority will consult its Consumer Consultative Committee prior to the completion of the inquiry.
- Following consideration of submissions received on the draft report, as well as its own analysis, the Authority will deliver a final report to the Treasurer by 30 June 2008. The Treasurer will, in accordance with the Act, have 28 days to table the report in Parliament.

In accordance with section 45 of the Act, the Authority will act through the Chairman and Members in conducting this inquiry.

1.4 How to Make a Submission

Submissions on any matters raised in this draft report or in response to any matters in the Terms of Reference should be in written and electronic form (where possible) and addressed to:

Inquiry on Developer Contributions to the Water Corporation
Economic Regulation Authority
PO Box 8469
Perth Business Centre
PERTH WA 6849

Email: developer.contributions@era.wa.go.au
Fax: (08) 9213 1999

Submissions must be received by 4:00 pm WST on Friday 16 May 2008.

In general, all submissions from interested parties will be treated as in the public domain and placed on the Authority's web site. Where an interested party wishes to make a submission in confidence, it should clearly indicate the parts of the submission for which confidentiality is claimed, and specify in reasonable detail the basis for the claim.

The receipt and publication of any submission on the Authority's web site shall not be taken as indicating that the Authority has knowledge, either actual or constructive, of the contents of a particular submission and, in particular, whether the submission in whole or in part contains information of a confidential nature and no duty of confidence will arise for the Authority in these circumstances.

Further information regarding this inquiry can be obtained from:

Dr Ursula Kretzer
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Economic Regulation Authority
Ph (08) 9213 1900

Media enquiries should be directed to:

Mr Paul Byrne	Ph (08) 9336 2081
Byrne & Byrne Corporate Communications	Mb (0417) 922 452

2 General Principles for Developer Charges

2.1 Terms of Reference

The Authority is expected to consider and develop findings on:

1. the general principles underpinning developer charges for government businesses and the approaches to developer charges adopted by water regulators in other jurisdictions and by other utilities in Western Australia, as well as the work that is done on a national level as part of the National Water Initiative Agreement;

2.2 Background

In this section, the Authority has considered the general principles that could be applied to developer charges for government businesses in Western Australia.

First, it is useful to clarify terminology, which varies between utilities. Developer charges are one form of developer contribution, in which developers pay charges to utilities towards the costs of infrastructure required to provide the services of new developments. Developer contributions may also take the form of handover works (sometimes called gifted assets), in which developers install reticulation assets in a new development and then transfer those assets to the utility.

There are different types of developer charges. Headworks charges recover the costs of shared network assets that are prompted by new developments. Other charges, sometimes referred to as "out of sequence charges", recover the costs of bringing forward new developments ahead of a development schedule. Developer charges paid by major customers are sometimes referred to as "capital contributions".

In its analysis, the Authority has drawn on a range of sources, including:

- current developer charging methods of the Water Corporation, Aqwest, Busselton Water, Western Power and Alinta;
- consultant reviews of developer charges in the WA water industry, comprising the reviews of developer charges by Marsden Jacob Associates for the Corporation in 2003 and for the Office of Water Regulation in 1997;
- reviews by other economic regulators, including the Essential Services Commission (ESC) in Victoria, the Independent Pricing and Regulatory Tribunal (IPART) in New South Wales, and Ofwat in the UK;
- the outcomes and commitments on best practice water pricing and institutional arrangements set out in the National Water Initiative and the National Competition Policy;
- the Productivity Commission's inquiry into first home ownership, which considered principles for developer charges;[3]
- a report to the Authority by economic consultants Frontier Economics, published on the Authority's web site;[4] and

[3] Productivity Commission Inquiry (31 March 2004), Report No 28, *First Home Ownership*.

- submissions from interested parties in response to the issues paper for this inquiry, also published on the Authority's web site.

For further background, a summary of different approaches to developer charges across WA and other jurisdictions can be found in Appendix 2. The Water Corporation's approach to developer charges is set out in Appendix 3. A detailed description of the approaches to developer charges by Western Power and water regulators in Victoria, NSW and England and Wales is provided in Appendix 4.

2.3 Setting Prices to Recover Costs

The regulation of prices in natural monopoly industries (such as water and wastewater distribution, gas transmission and distribution, and electricity transmission and distribution) is aimed at ensuring that service providers earn sufficient revenue to cover the efficient costs of service.

Under the National Competition Policy, all jurisdictions are required to have checks and balances, via independent regulatory oversight, to ensure that the total revenue from customers, including developer charges, is just sufficient to cover efficient costs. This implies not only that service providers should be cost efficient, but also that they should be assured of cost recovery of those (efficiently incurred) costs.

The National Water Initiative Agreement requires that all water prices, including charges to developers, be reviewed by an independent regulator.[5]

In WA, an integral part of a regulatory determination or review is the examination of whether there is over-recovery of costs. For example, when undertaking the annual reviews of the charges of the Corporation, or Aqwest or Busselton Water, the Authority ensures that developer revenue is included in the calculations to ensure total revenue equals total cost. A similar check is undertaken when the Authority reviews the revenue to Western Power and Alinta under their respective access arrangements.

2.3.1 Different Ways to Recover Costs

There are a variety of ways in which service providers can recover their costs. Developer contributions are one way of recovering the costs of developing infrastructure upfront. These may be either in the form of cash payments or the transfer of reticulation assets from the developer to the utility. Alternatively, costs can be recovered over the life of the assets through usage charges or annual fixed charges.

The role of the regulator is to ensure that the aggregate revenue from all these sources covers total costs and that the prices encourage an efficient allocation of resources. As developer contributions are taken into account in the calculation of tariffs, there is no "double dipping" in terms of revenue recovery. This means that the less revenue service providers recover through developer contributions, the more revenue will need to be recovered through tariffs, and vice versa.

Each different type of charge (e.g. developer charges, annual service charges, usage charges) can be set on the basis of economic principles, to reflect the particular costs incurred (e.g. by development, the availability of a service, or consumption). However,

[4] Frontier Economics (March 2008), *Developer Contributions to the Water Corporation*, Report prepared for the Economic Regulation Authority.

[5] *National Water Initiative Agreement* , section 77.

this may result in total revenues which are greater or less than total costs. In this case, judgements need to be made about which charges to adjust to balance revenues and costs. A principle that may be applied is to adjust those charges that are least likely to distort decision making, which are those charges to which customers are least price-sensitive. This is often the annual service charge, since the decision to connect or disconnect from an essential service is rarely influenced by the level of the service charge. Another option is to adjust the usage charge for low levels of usage, since customers are not sensitive to price where the service is required to meet essential needs. The extent to which developer charges could be adjusted to balance revenues and costs will therefore depend on how sensitive developers are to the levels of developer charges.

It is important to note that the level of developer contributions received by government businesses has minimal impact on the dividend payments or tax equivalent payments to the Government. Appendix 5 explains the current treatment of developer contributions for tax and dividend purposes.

In practice, there is a wide range in the approaches adopted by government businesses for determining how and how much developers contribute to the costs of development. This section identifies and discusses the principles which underpin these different approaches. However, regardless of which principles underpin each form of revenue recovery, it is important that there is sufficient flexibility in adjusting the different types of charges to ensure that total revenue equals total costs.

2.3.2 Upfront Cost Recovery

Developer charges provide a means by which businesses can recover their costs upfront rather than over time. There are a number of reasons why businesses may prefer upfront cost recovery, including:

- minimising the risk to businesses of developments not proceeding, or not generating sufficient revenues from future customers to cover costs;
- minimising the impacts on tariffs to existing customers, particularly in the case of large capital projects; and/or
- providing equity to fund capital works programs, in preference to taking on debt.

With regard to the impact on tariffs of changes in the level of developer charges, these impacts can also be reduced by phasing in any changes over time.

Regarding the funding of capital works, as long as businesses are assured of total cost recovery, including the return on and of capital, the decision on whether to recover costs upfront or over time through tariffs should be cost neutral and should have no financial impact on the business.[6]

2.4 Principles for Developer Charges

The Authority has considered three sets of principles for guiding the setting of developer charges: efficiency, equity, and good regulatory practice.

[6] See ESC (December 2006), *2008 Water Price Review: Consultation Paper – Framework and Approach*, pp87-88.

Efficiency relates to how effectively developer charges reflect (and thereby signal to developers) the costs that are imposed by new developments, ensuring that resources are allocated to their highest value in the community.

Equity principles relate to issues arising from any changes in the structure of prices, including consistency with government policies, such as uniform pricing or regional development, and tariff impacts on customers.

While a distinction has been made between efficiency principles and equity considerations for the sake of clarity, it is important to note that social welfare will be maximised when prices are set efficiently (assuming the existing allocation of wealth and income). Any deviation away from economic efficiency – for example, to subsidise prices to different groups – will result in a net loss in welfare. While some groups will benefit from a subsidy, there will also be losers, and the losses will outweigh the benefits.

Finally, the principles of good regulatory practice relate to how a regime of developer charges is implemented, including the degree of public consultation and independent scrutiny, the transparency and simplicity of the charging methodology, the accountability of utilities for revenue obtained from developers, and the availability of appeals mechanisms.

2.4.1 Efficiency

Efficiency, in economic terms, refers to the setting of prices in such a way so as to maximise the net benefits to society. Efficient pricing can ensure that:

- services are provided at least cost (technical or productive efficiency);
- resources are allocated to their most productive use in the WA economy, by setting prices that reflect the opportunity cost of the resources, which influence production and consumption decisions across the State (allocative efficiency); and
- investments are optimal over the long term, in their timing and location (dynamic efficiency).

The incentive for businesses to reduce costs, while maintaining service standards, can be enhanced through effective price regulation, which ensures that revenues reflect efficient costs of production.

A first best approach to achieving allocative efficiency is for prices that a customer pays for a good or service to equal the marginal costs to society of providing that good or service. In doing so, those who cause costs to be incurred are responsible for paying them (the “user pays” principle). Marginal costs are a forward-looking concept, reflecting the future costs avoided or incurred by the decisions made by customers and investors. However, as providers of monopoly utility services have a need to avoid incurring significant losses, first best outcomes are rarely, if ever, achieved. Indeed, the problem of “second best” arising from the need to avoid incurring significant losses necessitates a departure from marginal cost pricing if community welfare is to be optimised.

An important efficiency principle, in the case of developer charges, is the establishment of a connection, or nexus, between the charges faced by a developer and the cost consequences of a development decision to society. This nexus is clearer for some types of costs than others.

- For reticulation assets for a new development, there is a clear nexus between these costs and the new development (i.e. all the assets are built for and used

exclusively by that development). It is therefore appropriate for these costs to be paid for by developers.

- It is also appropriate for developers to pay for the costs of assets required to connect a new development to the network, and to reinforce the network to enable the services to be provided to the development, where these costs can be clearly linked to that development.
- It is less clear that investments in transmission assets or source assets can be clearly linked to new developments when all users on an interconnected system may benefit from, and create a need for, these investments.

Source costs and major shared infrastructure

The costs of enhancing transmission systems and developing new water sources are more appropriately recovered through tariffs (service charges and usage charges) than through developer charges.

In the case of water, in Western Australia, and increasingly elsewhere in Australia, the costs of bringing forward new sources to meet growth in demand are being reflected in water usage prices, so that it is the consumer who is the decision-maker on the need for additional supplies. When a customer in a new development uses water, the price they pay is sufficient to fund the per kilolitre cost of future water sources. Mostly it is inappropriate to include in developer charges a component that reflects source costs. For this reason, the ESC has argued that developer charges to water businesses should exclude the costs of headworks. The Productivity Commission has also indicated that it would prefer to see source costs paid for through other utility charges.

However, it is also important to recognise that the recovery of costs across the different types of charges (developer contributions, fixed annual charges and usage charges) impacts on the utilisation of the network. This is an issue of technical or productive efficiency. If the level of costs recovered through usage charges is such that it leads to an underutilisation of network assets, then costs incurred by the utility will not be at a minimum. Hence, welfare losses can arise from the inappropriate allocation of costs across the different types of charges.

A further argument for recovering source development costs through tariffs rather than through developer charges is that existing users benefit from enhancements to shared infrastructure, for example, through improved system capacity, reliability and security. The Housing Industry Association cited the Productivity Commission in its submission that the costs of shared infrastructure, including headworks, might be best recovered through tariffs:

> [T]he Productivity Commission found that "investment to install, upgrade or augment system-wide components that provide comparable benefits to users in long-established areas, would in principle be better funded out of borrowings and recovered through rates or taxes (or the fixed element in periodic utility charges). This would include, for example, water supply headworks and major sewerage treatment plants." (Housing Industry Association, p6)

The Housing Industry Association supported the approach used in England and Wales, where headworks costs are recovered through tariffs:

> It would appear from the research undertaken by ERA that the pricing system that exists in England and Wales most closely represents that which would suit the development industry here in Australia. This involves developers paying for the reticulation of services within an estate, the application of a uniform charge for connecting a development to a

> distribution network (presumably involving locational cross-subsidies) and headwork costs being met through annual user charges, except that in Western Australia, there is a current opportunity for more direct State Government funding of urban infrastructure. (Housing Industry Association, p8)

An argument against excluding any source costs from developer charges is that of the "user pays" principle: where particular customers can be identified as contributing to costs being incurred – including the costs of developing or augmenting sources – then they should pay for those costs. For these reasons, IPART allows for the cost of headworks infrastructure associated with growth to be recovered through developer charges, and requires that the costs of these investments be allocated to new developments on the basis of their contribution to those costs. The underlying principle in this case is that there is a clear nexus between costs and those that cause the costs to be incurred (i.e. new customers or existing customers). However, IPART is currently consulting on the developer charges, including the issue of to what extent headworks costs should be apportioned to developers. IPART notes that several water utilities in NSW will require substantial investments in supply capacity in the near future, in order to ensure supply security in the face of potential further droughts and climate change. It could be argued that such investments are required to provide security for existing customers and not only to provide additional capacity to meet growth.[7]

In gas and electricity, source costs are also reflected in the consumption prices. Further, in integrated networks, the need for major infrastructure enhancements to the shared network may be due to additional demand from anywhere on the system – existing customers or new developments – and should not be allocated to new developments alone.

Draft Principles

1) Source costs are likely to be better recovered through tariffs than through developer charges.

2) The costs of enhancements to the transmission network are also likely to be better recovered through tariffs than through developer charges, to the extent that all connected customers contribute to the need for these costs to be incurred.

3) The setting of all charges (including developer charges) needs to be mindful of the need to achieve an optimal utilisation of the existing network (technical efficiency).

Spare capacity and the investment decision

A good way to establish a connection between a new development and the costs imposed by it is to have a plan which sets out the future costs of providing services to that development. Such a plan would include the costs of any enhancements to the distribution network which could be directly attributed to that development, which would then be recovered through developer charges.

[7] IPART (November 2007), *Review of Developer Charges for Metropolitan Water Agencies – Issues Paper*, pp20-21.

However, in networks where there are economies of scale in investment, capacity augmentations are lumpy by nature and are often over-sized in anticipation of future growth. This is efficient, as it is less expensive in the long run to build a large increment in capacity than several smaller ones. Thus, for some developers, there will be spare capacity at the time and location of a new development. This raises the question as to whether it is efficient for developers to contribute to the costs of existing spare capacity.

On economic efficiency grounds, it is likely that developer charges should not include any contribution towards existing spare capacity, for the following reasons:

- The decision on the optimal size of network capacity augmentations – including considerations of expected future demands and economies of scale in investment – is made by the utility rather than developers, so the utility should bear the risk associated with recovering the costs of any over-sizing of assets. In the event that future developments do not go ahead, the proportion of unutilized assets would be treated as stranded assets, excluded from the regulatory asset base and would no longer be recovered through tariffs. As a consequence, and in the case of a publicly owned utility, the loss would be borne by taxpayers generally.
- Basing developer charges only on the forward-looking direct costs associated with developments, and excluding sunk costs, sends the correct signals to developers as to the costs of development. If developers can make use of existing spare capacity to reduce their development costs, then developer charges will be lower when there is spare capacity on the system. Likewise, developer charges would be higher at times when capacity is constrained, sending the correct signal to developers regarding the costs of service provision to new developments.

However, it would be consistent with the "user pays" principle for future developments, when they come along, to contribute to the costs of the existing capacity. This is essentially a sharing, or redistribution, of costs between current developers and developers in the future. One way to achieve this is to take into account the potential for future developments in the calculation of developer charges.

Draft Principles

4) Developer charges, if set efficiently, should at least cover the direct forward-looking costs of providing services to each new development.

5) Any risks associated with additional costs due to the over-sizing of assets to meet future demand growth should be borne by the utility, and the costs recovered from those for whom the spare capacity was provided.

Location signals

Another consideration is whether developer charges should be uniform across a region (e.g. Western Australia) or vary by location (e.g. scheme by scheme).

Setting developer charges in a way to reflect the costs of providing new services to a particular location (such as the costs of upgrading distribution infrastructure, providing a connection to the network, or providing local treatment, storage or pumping facilities) sends a price signal to developers, and ultimately land buyers, regarding these costs. This means that, potentially, developments with more expensive connection costs would

become less attractive to the developer's customers in comparison to developments with similar amenity value but less expensive connection costs. It is possible that developers would take this relative demand into account when deciding which parcels of land to develop.

For uniform charges, there may still be a nexus between developer charges and the costs of new development, if the developer charges reflect the average costs imposed by new developments across that area. However, this charge would not signal to developers the relative costs of developing in particular location within that area.

Service providers vary in the extent to which their developer charges signal location-specific development costs (see **Box 1**).

Box 1. Location Signalling in Developer Charges

Water Corporation

The current Water Corporation Standard Headworks Charge is a uniform charge across the State, and as such does not send efficient price signals to users regarding the costs of locating in a particular new development. However, the Corporation applies non-standard charges (Special Development Area charges) in areas where there are higher development costs.

One of the alternative approaches to headworks charges proposed by the Water Corporation in its submission involves setting headworks charges to reflect the costs of distribution assets on a scheme-by-scheme basis. This approach would introduce more locational price signals to developers.

Western Power

In the case of Western Power, location signals are muted by the High Voltage Pool, which averages the costs of high voltage infrastructure enhancements across developers. However, Western Power's distribution headworks policy for edge of grid customers in rural areas results in stronger location signals (although costs are still capped and subsidised to some degree).

Alinta

As Alinta funds the development costs for most residential customers, there is no direct location signal.[8]

IPART

The IPART methodology for water businesses in NSW is strongly location-specific, since the developer contributions for a particular development are based on the forward-looking costs of providing services to that development. The costs charged to developers are those costs that can be directly attributed to the new development. They may include a proportion of existing sunk costs or the costs of expanding existing source infrastructure, if these costs are being incurred because of the new customers.

ESC

Under the ESC approach to developer contributions in the water industry in Victoria, developers pay location-specific charges for the costs of reticulation assets within the development and for the costs of bringing forward a development ahead of the development schedule. However, there are no other locational signals, since all developers pay the same standard charge per service for water, wastewater or drainage (currently $500, although this is being reviewed).

A key question is how price-sensitive developers are to developer charges. Several submissions noted that developer charges are only one of many factors influencing the location decision for new developments:

[8] There is an indirect signal, as Alinta only funds development that will ultimately be profitable. If a development is likely to be unprofitable, there will be no reticulated gas.

Urban Development Institute of Australia (WA)

> Water is only one of many drivers influencing where and when urban development occurs and it goes against proper and orderly planning to use a price signal for one commodity to influence future urban growth. Land zoned for urban development is determined by the State Government through the Western Australian Planning Commission with the availability of essential infrastructure being just one determinant of the urban potential of land. It is not the role of a water provider to influence the pattern of urban development, but rather this should occur as a combination of broader state government planning coupled with market drivers. (Urban Development Institute of Australia (WA), p2)

Water Corporation

> [T]he cost of development (compared to the anticipated land sales prices) is only part of a range of developer considerations including rate of development, level of fragmentation of undeveloped landholdings, environmental clearances, existing community amenities and major arterial roads. (Water Corporation, p18)

Further, it was noted that developer charges are unlikely to be a key driver in development decisions, as they are small relative to the total cost of new developments.

Water Corporation

> The Corporation notes that a principle discussed in the Issues Paper is the extent to which developer charges send a signal to developers to encourage them to develop in areas that are more cost effective to develop (in the absence of other compelling environmental or social reasons). In doing this, one needs to appreciate the cost of the Corporation's charges to a developer relative to other costs incurred by them when developing land. The average price of metropolitan lots has increased over 240% in the past 3 years (June 2004 to June 2007). With increases in the price of land of this magnitude, the ability for the Corporation's charges to send an effective signal may be very minor. (Water Corporation, p18)

Aqwest

> It is very unlikely that developer charges in the WA water industry are significant enough to influence the spatial pattern of housing development. (Aqwest, p2)

Another point made by the ESC is that the level of developer charges was likely to provide a less important signal to reduce the overall costs of service provision than the level of tariffs, which sent signals to all customers to reduce their consumption, thus avoiding the need to expand system capacity.[9] The Housing Industry Association also noted the importance of usage charges in providing appropriate price signals to users:

> User charges can signal upcoming costs associated with system improvements that provide a benefit to all. They also send appropriate price signals to consumers about the need to be more efficient with water usage. It would be relevant for those system improvements to be covered by user charges to be predominantly related to works which generate greater efficiencies of use. In this way consumers would be billed specifically for those works which will deliver future price efficiencies. (Housing Industry Association, p7)

In considering the importance of price signalling by developer charges set by Victorian water businesses, the ESC noted that a previous report for IPART by

[9] IPART (December 2006), op.cit., p93.

PricewaterhouseCoopers had found that upfront developer contributions have no broad impact on urban planning.[10]

However, it is clear that if developer charges are sufficiently high, they could impact on investment decisions. As noted by UDIA in relation to high developer charges emerging out of the Western Power distribution headworks policy:

> Within weeks of the introduction of locational based headworks charges by Western Power, residential development in Walpole has ground to a halt as projects are rendered unviable due to the impact of prohibitive costs of headworks. (Urban Development Institute of Australia (WA), p2)

The Authority is of the view that, on efficiency grounds, developer charges should ideally signal the direct forward-looking costs of new developments in each location. Whether or not setting developer charges on a location by location basis is practical will depend on administration costs, which are discussed further below.

From an efficiency point of view, location signalling is important: those who cause costs to be incurred are responsible for paying for them, and receive information through the prices they pay regarding the costs that they incur. There is evidence to suggest that developer charges – unless they are very large – do not dominate the location decision for new developments, which is influenced by a large range of factors, including land use planning, environmental clearances, and proximity to local amenities and roads. However, there would be a misallocation of resources across the economy if development costs are not signalled through developer charges. This arises because the costs attributable to specific developments would then need to be recovered from other customers, sending inappropriate signals to those customers and reducing community welfare.

Draft Finding

6) While developer charges are unlikely to be a dominant consideration in the location decision for new developments, such charges are necessary so as to avoid the need for development costs to be recovered from other customers, thereby sending inappropriate signals to those customers and reducing community welfare.

Provision for out of sequence development

Out of sequence development is when a development is brought forward ahead of a development schedule. Out of sequence development incurs additional costs by prompting the need for earlier investment in infrastructure. The economic efficiency principle underlying the charging of out of sequence costs to developers is that these costs can be directly attributed to that development: there is a clear link between the costs of bringing forward investments and the customers requiring those services.

Out of sequence developments can be an efficient way of by-passing the more orderly expansion of an urban centre as long as the decision to "leapfrog" is a commercial one incorporating all of the relevant risks and external costs associated with the decision.

[10] PWC (October 1999), *Review of Developer Charges*, IPART Research Paper No. 16, cited in ESC (December 2006), *2008 Water Price Review Consultation Paper: Framework and Approach.*

According to the Productivity Commission:

> Out of sequence development can help to overcome constraints that adversely affect the responsiveness of housing supply, such as fragmented land holdings, thereby reducing price pressures arising from an increase in demand. If developers bear the holding costs of infrastructure that has been provided ahead of schedule, utilities should be indifferent about meeting the infrastructure requirements of this type of development. (p170).

In WA, the Corporation has a policy on out of sequence developments whereby the developer pays the cost of extending or bringing forward the capacity of the system and is then refunded the initial payment after an agreed period if certain conditions are met.

> The Water Corporation agrees with this principle. In these situations, Special Development Contribution Area or Prefunding Policy arrangements are available to ensure the equitable transference of cost and risk. (Water Corporation, p39)

Western Power's policy is to attribute any additional costs of bringing forward a development to the developer, net of the net present value of the future access charges associated with the development.

The ESC methodology allows Victorian water businesses, subject to the approval of the ESC, to set new customer contributions higher than the fixed notional fee in the case of out of sequence developments. The higher charges are calculated on the basis of the cost of bringing forward in time the development of shared distribution assets.

In NSW, out of sequence developments are accommodated through the requirement for water agencies to publish development servicing plans, setting out their forward investment programs. Any change in the timing of these programs (such as bringing forward developments) would be reflected in revised development servicing plans and subject to regulatory approval.

In some cases, an alternative mechanism available to developers who wish to bring forward developments is for the developer to pay all of the development costs of the new development, in the expectation that these costs can be later recovered (e.g. through land prices). The developer therefore bears all the risk that the costs may not be recouped.

The Authority notes that there is general agreement across agencies that developers should be able to bring forward developments ahead of schedule and that they should incur any associated costs of doing so. However, it should be noted that the correct identification of the costs of bringing forward developments depends on there being a clearly defined development schedule in place, against which any out of sequence costs can be assessed.

Draft Principle

7) Developer charges should cover the costs associated with bringing forward new developments ahead of a development schedule.

Draft Finding

8) The correct determination of out of sequence development costs depends on the existence of a clearly defined development schedule.

Administration Costs

A further key consideration is the cost of implementing and administering a regime of developer charges. In practice, it is possible that the administration costs of setting efficient developer charges (e.g. information requirements, customer management, transitional arrangements) could outweigh the benefits derived from any efficiency improvements. In some cases, a simple charging regime with low administration costs may be better than a more complex but more economically efficient charging approach.

The Water Corporation in its submission noted several times that a key principle of any approach to developer contributions is that its benefits outweigh the costs associated with its administration:

> Administrative burden: the administrative costs of alternative arrangements need to be weighed against the intended benefits that change may bring. This burden may extend beyond the impact on the developer or the Corporation (for example, local government, Department of Planning & Infrastructure) and may be significant if focusing on future costs or scheme specific calculations. (Water Corporation, p41)

The comments were mainly in the context of comparing the current approach with approaches such as that used by IPART, where developer charges are based on estimates of forward-looking costs and revenues, as set out in the Development Servicing Plans prepared by the water businesses:

> T]he administrative requirements of alternative methods may be significant (especially in instances where projections are based on future asset requirements) and needs to be weighed up against the supposed net benefits of that alternative. (Water Corporation, p21)

> [The principle that] decision makers should only pay for costs that are directly attributed to their actions…needs to be viewed in the context of the integrated nature of the water Corporation's services. An important practical aspect of this principle is to be able to clearly identify those costs that are related to a developer's decision, and balance the cost of getting this information against the benefits that may result. (Water Corporation, p38)

The Authority agrees that the benefits of any developer charges methodology (such as improved efficiency or equity) should outweigh its administration costs, including the costs of switching from an existing methodology. If the forward-looking costs of development can be reasonably approximated by a simpler method, the savings in administration costs may warrant it.

Draft Principle

9) The benefits of implementing a developer charging methodology should outweigh its administrative costs, including transition costs.

2.4.2 Equity

The efficiency principles outlined in the previous section would result in considerable variation in developer charges between different locations. The main equity issue is therefore whether it is more equitable for charges to be generally uniform across the State, or for charges to vary according to development costs at each location. Depending on which view of equity is adopted, both could be considered fair.

- With uniform charges, people in different locations pay the same charge, which involves people in lower cost regions subsidising those in higher cost regions. For example, the Corporation submitted that:

  > [One advantage of uniform pricing is] equity – in so far as 'equity' may be defined as paying the same price for the same minimum level of service. (Water Corporation, p23)

- With location-specific charges, people pay the costs that they incur – the "user pays" principle. For example, Aqwest submitted that:

  > Developer charges between water utilities should not be uniform. Each water utility and its operating environment is different and it is therefore logical to assume that developer charges will also be different. (Aqwest, p2)

This section examines the equity implications of a system of developer charges that reflects local development costs.

- First, should a Community Service Obligation (CSO) payment be made to utilities to cap the charges in some high cost areas, just as a CSO payment is given to the Water Corporation to compensate for setting tariffs in accordance with the Uniform Pricing Policy?
- Second, how does regional variation in developer charges relate to the objectives of the Government's Regional Development Policy?
- Third, how can the impacts of developer charges on customers be minimised?

Uniform Pricing Policy

The State Government's Uniform Pricing Policy has been documented by the Department of Premier and Cabinet, as part of the Authority's 2006 Inquiry into Country Water and Wastewater Pricing, as a policy that provides all households in WA, irrespective of where they are located, with access to an amount of water for their basic needs at an affordable price:[11]

[11] Department of Premier and Cabinet submission to the Inquiry on Country Water and Wastewater Pricing in Western Australia, p1.

The Uniform Pricing Policy (UPP) is expected to provide:

- affordable cost of water across the State at a consumption level considered to be the minimum for basic human needs (water for drinking, cleaning and sanitation purposes); and
- subsidised cost of water across the State, at a consumption level considered to be the average consumption of a household.

The question in this inquiry is whether it is the intent of the UPP that developer charges should be uniform. While the Government's position on whether the UPP should apply to developer charges has not been documented, it could be argued that allowing for high developer charges in some regions could go against the intent of the policy, by affecting housing affordability and thereby denying access to affordable water to those seeking houses in new developments. This view was raised in a number of submissions.

Urban Development Institute of Australia (WA)

With declining affordability in WA a very real problem for particular sectors of the market, it would be irresponsible of the Water Corporation to introduce pricing mechanisms for water infrastructure that are likely to have a negative impact on housing affordability, particularly in regional areas. (Urban Development Institute of Australia (WA), p3)

Department of Planning and Infrastructure

The preliminary view of the WA Planning Commission and DPI, as a joint general position, [is that] the main concern is that in the current circumstances where issues of land release and housing affordability need to be given priority, any changes to the system of developer contributions which might create uncertainty should be avoided. (Department of Planning and Infrastructure, p1)

Housing Industry Association

The principle of reasonableness should be applied to any upfront developer charges, with consideration to the impacts of such charges on housing affordability. A housing affordability impact assessment should be undertaken for all new charges (it being noted that the affordability scenario in Western Australia has changed markedly since the 2003 Marsdon Jacob review). (Housing Industry Association, p8)

The Water Corporation submitted that the Government's support of the uniform Standard Headworks Charges indicates that it supports uniform pricing in developer charges:

As custodians of the "policy", this is a question that only the Government can answer. The Government has demonstrated its application of this policy by developing policy consistent with uniformity for standard headwork charges in addition to uniform charges for residential water consumption below 300kL, non-residential water service charges and non-residential wastewater charges.

The Department of Water maintains that it is not the role of the UPP to subsidise new developments.

In areas where both the [Uniform Pricing Policy] and standard headworks charges (SHC) are in place, some part of the current CSO payment may contribute to recouping the cost of any shortfall from the SHC…

There is some debate about whether increased development costs are built into the sale price of new developments or result in reduced revenue for developers and/or pre-development land owners – the Public Accounts Committee Report referenced above found the latter to be the case.

Irrespective of who actually bears the cost of development charges, it is not necessarily the role of the UPP to subsidise development in high-cost areas. (Department of Water, p7)

The Authority's view is that the intent of the Uniform Pricing Policy is to ensure that households have access to affordable water. It is not about uniformity in prices *per se*, or influencing investment decisions, or subsidising water infrastructure anywhere in the State in order to facilitate migration to any town. The Authority therefore does not consider that it is the intent of the Uniform Pricing Policy that developer charges should be uniform.

People will have access to affordable water (through the Uniform Pricing Policy) wherever they are – whether they move to a new development, or an existing development, or stay where they are. Thus, non-uniform developer charges do not preclude access to affordable water. Indeed, uniform developer charges would doubly benefit (at the cost of other sectors of society) those moving to high cost developments and who also benefit from the uniform price on the water they consume.

The Authority also notes that there is currently considerable variation in developer charges across government businesses, such as the Corporation's non-standard Special Development Area Charges, and the locationally differentiated charges under the Western Power's Distribution Headworks Scheme. This suggests that it is not the Government's intent that developer charges be uniform.

Draft Finding

10) The Authority is of the view that the intent of the Uniform Pricing Policy is that households should have access to affordable water for essential needs, and not that developer charges should be uniform.

Encouraging Regional Development

As part of the Terms of Reference for this inquiry, the Authority is required to have regard to the Government's Regional Development Policy. This policy states that:

> The cost of headworks connections in regional areas for power, water and other utilities continues to be a disincentive for new business investment, particularly for the first proponent to enter an undeveloped area. The Government has now confirmed funding of a scheme to reduce costs, following submissions to the *Draft Regional Policy Statement* and other representations on this matter.[12]

The resulting Regional Headworks Program provides financial assistance, in the form of grants of between $5,000 to $200,000 to cover the costs of connection to essential services (water, electricity, telecommunications, gas, drainage and sewerage). The scheme applies to small and medium commercial and industrial projects, and does not apply to residential developments or private subdivisions.[13]

In addition to the Regional Headworks Program, the Government provides rebates to offset higher charges under the Western Power Distribution Headworks Scheme.

- For residential subdivisions, headworks charges are capped at $2,000 per kVA, with charges above $1,000 per kVA subsidised at 50 per cent up to the cap.

[12] Government of Western Australia (November 2003), *Regional Western Australia: A Better Place to Live. Regional Development Policy*, p32.

[13] Department of Local Government and Regional Development (April 2007), "Rural Headworks Program (RHP) Guidelines".

- For commercial and light industrial subdivisions, charges are capped at $1,000 per kVA, with charges above $500 per kVA subsidised at 67 per cent up to the cap.

The Government also applies caps to water usage charges above the uniform pricing threshold of 300 kL in high cost regional towns in the south of the State.

It is not clear from submissions how sensitive developers are to the level of developer charges, and how developer charges impact on regional development (see discussion in section 2.4.1 under location signals). As noted by the Urban Development Institute of Australia, despite the rebates incorporated into the Western Power Distribution Headworks Scheme, the impact of high headworks charges in the Walpole area has been severe enough to defer development. On the other hand, other submissions (e.g. Water Corporation, Aqwest) noted that developer charges are a minor consideration in the location decision for new developments, either because there are numerous other overriding considerations, or because developer charges are small in relation to overall land prices.

A number of submissions expressed concern about the impact of high developer charges on regional development and supported the continuation of uniform charges and/or the use of CSOs.

> **Water Corporation**
>
> [Uniform charges] encourage regional development, or put more accurately, it does not present a barrier to regional development provided the cost of expanding a scheme is reasonable by comparison to the cost of the existing scheme.
>
> Regional schemes are typically more expensive (on a per lot basis) to developers due in part to the diseconomies of scale. Any move away from uniform charges is likely to result in an increase in the developer charge in most regional schemes. This could adversely impact the Government's policy of encouraging regional development. (Water Corporation, p21)
>
> **Urban Development Institute of Australia (WA)**
>
> UDIA (WA) strongly supports the current uniform headworks charge that the Water Corporation applies to residential developments across Western Australia and industry is of the firm opinion that the system should not be changed in any way…
>
> Uniform headworks charges are reflective of the integrated nature of the scheme in WA. UDIA believes this is an equitable approach which does not discriminate against areas outside the Perth Metropolitan Area or non-urban areas outside regional centres. The ongoing resource boom continues to put substantial growth pressures in regional areas and significant financial impediments to regional growth need to be eliminated. (Urban Development Institute of Australia (WA), pp 1-2)
>
> **WA Local Government Association**
>
> [WALGA recommends that] the Department of Local Government and Regional Development, in conjunction with the Economic Regulation Authority, review the overall impact of fees and charges set by regulated government entities on regional development and provide recommendations on the establishment of Community Service Obligation type payments to encourage development in areas which maximise the overall benefits to Western Australia, including external benefits and costs. (WA Local Government Association, p.i)
>
> **Department of Planning and Infrastructure**
>
> The preliminary view of the WA Planning Commission and DPI, as a joint general position, [is that]…the uniform State-wide charge used by Water Corporation promotes clarity and

> certainty, and is equitable in supporting the servicing and development of regional areas. (Department of Planning and Infrastructure, p1)

The Authority has some concerns regarding the linking of developer charges to regional development policy. The Government has the option of making equity decisions, such as subsidising developer charges in particular areas, either through CSO payments or through cross-subsidisation from other regions in the case of uniform charges. However, it is important to recognise that these decisions come at a cost, which is the loss of welfare to the general community (in this case, Western Australia) that results from a move away from cost reflective prices.

While subsidising developer charges in a high cost town may benefit that town, in terms of costs and benefits across the State there is likely to be a net welfare loss. This is because any subsidy would distort locational signals, which can cause resources to be diverted from viable projects to non-viable projects.

A further point to note is that it is desirable for subsidies, where they are used, to be closely targeted towards meeting clear policy objectives. It is unclear whether subsidising developer charges would have a direct impact on regional development (due to the large number of factors that come into play in development decisions). It is also unclear where the subsidies would end up (with developers, or land purchasers, or local businesses?). By comparison, subsidising usage charges for low levels of water usage under the Uniform Pricing Policy is specifically targeted at customers using water to meet basic needs.

When assessing the costs and benefits of subsidising a development in a regional town, these must be compared to the costs and benefits of the next best alternative use of government revenue. In other words, if a subsidy were not used to offset developer charges in a particular town, how could that money have been otherwise spent, and what are the net welfare gains of that option? Examples might include projects to improve road safety, or hospital facilities. Alternatively, the money could be returned to the community in the form of lower taxes.

The total net social benefit of a project, or government subsidy, is the sum of the private and public net benefits. Private benefits are those that accrue to the parties directly involved (e.g. in the case of subsidised developer charges, the developer, the land buyers). Public benefits are those gained by the wider community, such as through improvements in public amenities or the environment.[14]

There may also be other economic impacts, such as increases in local employment or business growth, which are not typically included as part of the cost-benefit analysis. This is because the resources spent on the project or subsidy would not lie idle if the project or subsidy did not go ahead. Instead, they would be used elsewhere in the economy to create economic value.

The view of the Authority is that there are unlikely to be net welfare gains from subsidising developments in regional towns.

[14] It should be noted that defining benefits as private does not mean that the community does not benefit. Rather, it means that the members of the community who gain are the consumers, developers, employers, etc, associated with that project (or subsidy). Some public benefits may not readily be given a dollar value, although they should still be identified and described as part of any cost benefit analysis.

Draft Finding

11) It is a matter for government to determine whether developer charges in regional areas should be subsidised in the interests of regional development. However, it is important to note that such decisions come at a cost: any gains from moving away from cost reflective pricing in one area will be offset by welfare losses in other parts of the wider community. The Authority considers that there are unlikely to be net welfare gains across the State from subsidising developer charges in regional areas.

Mitigating the impacts of pricing reforms on low income customers

Changes in developer charges could impact not only on those paying developer charges, but also on tariff customers (as tariffs are used to make up any revenue shortfall not covered by developers). It is common practice by utilities and regulators to transition customers to higher charges or tariffs, where these occur, over a number of years. For example, the current water pricing reforms are being transitioned over a period of eight years to ease the impact of any price increases on customers. The policy of phased transition was supported by some interested parties:

> **Water Corporation**
>
> Water Corporation regards a transition period in implementing any change to be an essential element in any planned change. As to 'what is a reasonable time period' is dependent on the degree of impact.
>
> The current triennial review with quarterly indexing has proved a successful approach of transitioning the cost of new construction onto the developer charges. (Water Corporation, p40)
>
> **WA Local Government Association**
>
> [WALGA recommends that] any changes to Developer Contributions resulting from reviews should be implemented over time to minimise adverse impacts on third parties or perverse incentives to bring forward or delay developments. (WA Local Government Association, p.i)
>
> [T]his includes the impact to developers as well as the impact to existing customer's annual rates and fees. (Water Corporation, p41)

The Authority accepts that any changes to developer contribution policies, by any utility, should be implemented in such a way so as to minimise the impact of price changes on customers. However, it should also be considered that delaying the transition to cost reflective prices will also entail welfare losses, as it prolongs the misallocation of resources that results from an inefficient pricing regime.

Draft Principle

12) When implementing changes to developer contributions policies, service providers should mitigate the impacts on customers, particularly those on low incomes, for example, by phasing in changes to tariffs over time. However, any delay in the move to efficient pricing would incur welfare losses.

2.4.3 Good Regulatory Practice

The Authority considered a range of other general principles for the setting of developer charges, which can be grouped together under the theme of good regulatory practice.

- Public consultation and independent regulatory scrutiny can provide important checks and balances in the setting of developer contribution policies.
- Ideally, developer charging mechanisms should also ensure that utilities are accountable for the contributions that they receive from developers, by having a clear link between the revenue obtained from developers and the expenditure on new developments.
- Transparency in charging methods promotes public understanding and acceptance of developer charges. Simplicity in charging methods can aid transparency, and can also reduce administration costs.
- As a final safeguard, those who pay developer charges should have an avenue for appeal against the charges and how they are set.

Public Consultation

Water Corporation is the only utility in WA that has a formal advisory committee for setting developer charges. The Urban Development Advisory Committee (UDAC) provides advice to the Corporation's Board on policy and technical matters relating to developer charges.

The Water Corporation, in its submission, reiterated the key role of UDAC in formulating the headworks charging policy:

> Water Corporation, since mid 1994, has worked closely with the Urban Development Advisory Committee (UDAC) to receive land development industry input to reviews of policies, processes and practices. UDAC involvement is particularly important in undertaking the Triennial Review of developer charges.
>
> (Water Corporation, p40)
>
> The current headwork charges have been developed over 30 years with the continual involvement and review of the development community, currently represented by the Urban Development Advisory Committee (UDAC).
>
> In particular, UDAC fulfils the responsibilities to provide:
>
> - external representative input to review policies, processes, standards, practices and Corporation performance particularly where these impact on land development activities state-wide;
> - advice on improving processes associated with the Corporation's involvement in land development activity; and

- advice on performance indicators the Corporation should adopt and how the development industry could be better served by the Corporation.

To date, the governance role exercised by UDAC has been highly successful.

(Water Corporation, p43)

The WA Local Government Association also supported the continuation of UDAC:

> The UDAC committee which provides on-going dialogue and advice to Water Corporation (and other water service providers) should be maintained. (WA Local Government Association, p.ii)

WALGA also noted that for consultation to be effective, sufficient time must be allowed in the consultation process:

> [WALGA recommends that] sufficient time is allowed for effective consultation with local government on key issues which impact upon the sector. WA Local Government Association, p.ii)

The Authority is not aware of a similar consultative arrangement in other water utilities in Australia. When Marsden Jacob Associates considered this in their 2003 report to the Corporation, they noted that possible reasons for the absence of high level engagement with key stakeholders in other States could be as a result of the regulatory approaches being followed, which involve public consultation. It should be noted, however, that IPART has required utilities in NSW to consult with their stakeholders as part of the process of establishing Development Servicing Plans.

Aqwest and Busselton Water have traditionally set their developer charges in relation to the Corporation's charges. As such they do not have specific consultation processes in place in relation to the level of developer charges.

Western Power carried out a six week public consultation on its Distribution Headworks Policy.

The Authority considers that public consultation is essential to the development and ongoing evaluation of developer contribution policies. Public consultation helps to ensure that developer charges are set appropriately and transparently, and that they are understood by stakeholders. However, public consultation must be meaningful, with the potential to produce changes in the policies under review.

Draft Principle

13) The setting of developer charges and developer charging policies should involve effective public consultation.

Independent Scrutiny

According to the National Competition Policy, the National Water Initiative and the Productivity Commission, developer charges should be subject to independent regulatory scrutiny. Such scrutiny is currently only in place for the Corporation, which has its charges reviewed by the Authority in inquiries such as this one. The Water Corporation noted that the Urban Development Advisory Committee also provided independent scrutiny of developer charges:

> The involvement by UDAC has contributed towards ensuring the principles of public consultation, independent scrutiny and accountability are upheld. The Corporation supports the need for these principles going forward and believes any future governance model should incorporate UDAC's continued involvement. (Water Corporation, p18)

The WA Local Government Association supported the independent scrutiny of developer contributions to the Corporation, along with other costs and charges:

> [WALGA recommends that] reviews of methodology and costs of Developer Contributions continue to be regular and scheduled (eg triennial) whether conducted by the consultative process or the Regulator. (WA Local Government Association, p.i)
>
> WALGA supports the independent review of developer charges, although argues that this cannot be conducted independently of a review of service and usage charges along with the efficient costs of providing the service. If the various charges are reviewed separately (or some are reviewed and others are not) then it is unlikely that the most efficient outcomes will be achieved. (WA Local Government Association, p5)

There has been no independent scrutiny of the other utilities' developer charges, although it should be noted that the Office of Energy has been involved in reviewing Western Power's developer charges[15] and Aqwest and Busselton Water's developer charges are agreed to by the Minister for Water.[16] Aqwest submitted that its current review processes were sufficient:

> Current headworks charging practices have been endorsed by key stakeholders without independent regulatory scrutiny…The current review processes for headworks charges are adequate. (Aqwest, pp1-3)

The Department of Water raised the point that the current framework for the regulation of developer charges in the water industry is complex, and is the subject of ongoing legislative reforms:

> The governance framework for the regulation of developer charges is unclear and complex within the existing legislative framework. The legislative authority for the Water Corporation to apply developer charges is through the:
>
> - Water Corporation Act 1995
>
> Empowers the Corporation in respect to its various powers and functions, including the capacity to enter into contractual arrangements with developers that are commercial-in-confidence.
>
> - Water Agencies (Powers) Act 1984 and by-laws
>
> Prescribes Corporation powers and governance provisions. There is significant reference to developer charges.
>
> - Planning and Development Act 2005
>
> This Act provides a general framework for planning and development in Western Australia. The arrangements for developer charges are set out in the Western Australian Planning Commission [WAPC] Planning Bulletin No 18 issued under the previous legislation – the Town Planning Development Act 1928. Schedule 1 of

[15] The issue of Western Power's headworks charging policy, in relation to high-cost developments on the fringe of the network, arose as part of the consideration of Western Power's policy on capital contributions during the Authority's review of Western Power's access arrangement. While the Office of Energy does not have a formal role in the regulation of Western Power's developer charges, it may provide policy advice to Government on such matters and is currently working with Western Power to further develop its policy for headworks charges, following on from the finalisation of the access arrangement.

[16] Section 62A of the *Water Boards Act 1904* provides for the water boards to set such developer charges as are approved by the Minister for Water.

> the Bulletin gives broad details of the developer arrangements for the Water Corporation….
>
> The intention in the legislative review being undertaken by the Department of Water is to focus on enabling powers and clarify the governance requirements rather than the current legislative approach which is overly prescriptive and complex.
>
> (Department of Water, p5)

The new legislation to be introduced later this year will enable the Minister to regulate developer charges.[17] Legislation will not specify how the charges are to be regulated, but will enable the Minister to prescribe the methodologies which are to be applied in determining developer charges.

The Authority considers that it is appropriate for developer charges to be subject to some form of independent regulatory oversight. In relation to water, developer charges, for example, be included in the terms of reference for the major reviews by the Authority of the water and wastewater prices charged by the Corporation, Aqwest and Busselton Water Board.

Draft Principle

14) Developer charges and developer charging methodologies should be subject to independent regulatory scrutiny.

Accountability

The Productivity Commission has indicated that an important principle is that utilities should "be accountable for how money raised from [developer] charges is spent".

The Water Corporation submitted that it is accountable to the Government for its total costs of service under the current arrangements:

> The Corporation is accountable to the Government for its financial performance, particularly the Department of Treasury and Finance and the Minister for Water Resources. While there may be no specific nexus between a developer contribution and the cost of assets servicing that new development, there is an overall accountability for the total revenue and the total cost for providing the service.
>
> Furthermore, the current developer contribution arrangement means that when a developer pays a contribution, the Corporation is obligated to provide them with a future service. (Water Corporation, p40)

In WA, the utilities that have the greatest nexus between the money raised from developers and expenditure on new developments are Aqwest and Busselton Water, which put the money into special reserves dedicated to expenditure on costs attributed to developments. Aqwest submitted that:

[17] The *Water Services Bill 2008* is currently being drafted. It will cover: licensing of water service providers (replacing the *Water Services Licensing Act*); last resort supply arrangements; a water services Ombudsman scheme; provision of water supply services, sewerage services, drainage services and irrigation services; infrastructure contributions; protection of assets; water services charges; and powers of water service licensees

> The concept of Special Reserves being maintained for Developer Contributions is strongly supported. (Aqwest, p2)

However, this approach does not appear to be followed widely by other utilities in Australia. Instead, other utilities tend to use their cash contributions from developers to partly fund their current capital expenditure programme and rely to a greater extent than Aqwest or Busselton Water on debt funding for infrastructure expenditure. As long as there are sufficient controls on expenditure, including regulatory oversight and consultation with stakeholders, there would not appear to be any benefit from using the reserve funding method over debt funding.

Draft Principle

15) Service providers should be accountable for money raised through developer charges, through independent scrutiny and public consultation.

Transparency

Several submissions noted or implied that it was desirable for developer contribution methodologies to be transparent to stakeholders.

> **B.Keay**
>
> Any system of charge for headworks items should be transparent in regard to the derivation of the charge and its application. I believe that the current charge system meets this criteria as the Water Corporation has through consultation with industry demonstrated the basis for the charges and has entered into discussion with the industry. (B. Keay, p1)
>
> **Water Corporation**
>
> Developer contribution arrangements were established in 1978, and have continually evolved over the past 30 years. The current arrangements are transparent, well understood and widely accepted by the land development industry. (Water Corporation, p1)
>
> **Housing Industry Association**
>
> HIA supports the application of the principles of certainty, simplicity, transparency and reasonableness in the setting of appropriate service and infrastructure prices. (Housing Industry Association, p10)

The Department of Water notes that the current complexity of the legislative framework in the water industry creates some barriers to transparency in developer charges:

> The complexity of the current legislative provisions is an impediment to transparency. Transparency will need to be reviewed in the context of the information required by the Minister to exercise authority to determine charges under the proposed legislative changes. (Department of Water, pp6-7)

The Authority considers that it is a key principle that developer charges and charging methodologies are transparent to stakeholders, in terms of their underlying principles, the costs upon which they are based, and how they are calculated. Transparency can promote good customer relations, acceptance and understanding of policies by stakeholders, and reduce the needs for appeal. There is considerable overlap between the principle of transparency and public consultation, which can promote transparency.

However, transparency can be achieved aside from public consultation processes, for example, by clear explanation and publication of methodologies and calculation formulae.

Draft Principle

16) Developer charges and developer charging methodologies should be transparent to stakeholders.

Simplicity

Some submissions raised the point that developer charges should be simple to calculate.

> **Water Corporation**
>
> The principles discussed in the Issues Paper exclude reference to simplicity of calculation. Yet simplicity offers many benefits both in terms of its acceptance by the industry, offers a greater ability to be understood, aids delivery of intended benefits and administrative advantages (including cost savings) to all parties, particularly the utility. These benefits should not be underestimated. (Water Corporation, p20)

> **B. Keay**
>
> Some headworks systems used in the Eastern States are quite complex both for the user and the administrator of the charging scheme. In my opinion any system, whether it remains as the current scheme or some new arrangement, must be simple for both developers and the administrators in the general interests of business efficiency. (B. Keay, p1)

The issue of simplicity of approach is really a matter of the administrative costs of a regime. A charging method need not be simple *per se*, as long as it is transparent and the underlying principles can be clearly understood. However, some complex approaches can involve substantial data requirements which impose additional administrative costs on utilities.

Appeals Mechanism

According to the Productivity Commission, developer charges should "allow appeals on the amounts charged, or their coverage". There are no such appeals mechanisms in WA for stakeholders to contest the level of developer charges set by government businesses. (While the Ombudsman does not have jurisdiction in the water industry, he does have a role in electricity and gas as the Energy Ombudsman but this does not include the power to resolve disputes over tariffs. In water, the Department of Water performs a role similar to that normally carried out by an Ombudsman.)

Water Corporation submitted that there was no need for an appeals mechanism for its developer charges, given the involvement of the Urban Development Advisory Committee in formulating the charging mechanism:

> Currently, there is no appeals mechanism in WA for the Water Corporation's developer charges. Under the current governance model, the charges are set by the Corporation with the close involvement of UDAC.
>
> There has been little call for an appeals mechanism as the blend of industry representatives (through UDAC) has successfully resulted in a robust body which has met the expectations of the Corporation and the land development industry to date. (Water Corporation, pp43-44)

Likewise, Aqwest submitted that current arrangements were adequate:

> No appeals should be allowed since charges are pre-approved annually by the State Government as part of the annual Budget process. (Aqwest, p2

In comparison, the approach used in NSW provides an arbitration mechanism under section 31 of the *Independent Pricing and Regulatory Tribunal Act 1992* for resolution of disputes. Any customer with a complaint can first ask to have their concern reviewed by the utility and, if unsatisfied, seek the appointment of a jointly-appointed arbitrator to resolve the dispute.

The introduction of a mechanism for appeals against the Corporation's developer charges was supported in submissions:

> **WA Local Government Association**
>
> A mechanism for appeal and review of any proposed charges should be established. (WALGA, p.ii)
>
> **Housing Industry Association**
>
> [D]ecisions to impose charges must be appealable. (HIA, p10)
>
> **N. Thomson**
>
> [D]eveloper charges applied to capital works should be subjected to an independent regulatory appeals process. (N. Thomson, p2)

The Authority's view is that, regardless of the transparency of a developer charging regime, or the extent of consultation in its development, the ability of those paying developer charges to appeal against the charges and how they are calculated is an important safeguard. The Authority therefore considers that an independent appeals mechanism should be a feature of any developer charging policy.

Draft Principle

17) Developer charging policies should incorporate a mechanism for appeals against the charges and their coverage.

3 Water Corporation's Standard Headworks Charges

3.1 Terms of Reference

The Authority is expected to consider and develop findings on:

2. whether standard headworks contributions are an efficient and equitable funding mechanism for the provision of water, and wastewater and drainage infrastructure, or whether alternative pricing structures have the potential to encourage more efficient urban development through cost reflective price signals…

3.2 Background

The Water Corporation charges a State-wide Standard Headworks Contribution (**SHC**), which is based on recovering 40 per cent of the average state-wide cost of providing headworks infrastructure to a typical residence on an average residential lot. The remaining 60 per cent of headworks costs are recovered through annual usage and fixed charges and Community Service Obligation payments from Government where applicable.

The Corporation has summarised the history of headworks charges:

> Headworks Contributions were first introduced in the metropolitan area as a method of funding rapid urban development in 1978 and standardised in 1981. Prior to 1978, major infrastructure capital expenditure was funded solely through borrowings, general revenue and some infrastructure contribution by developers and major mining companies in the country. However, with government restrictions on borrowings and limitations on increases to rates and charges, a new method for funding works was sought.[18]

A history of the SHC is provided in Appendix 3.

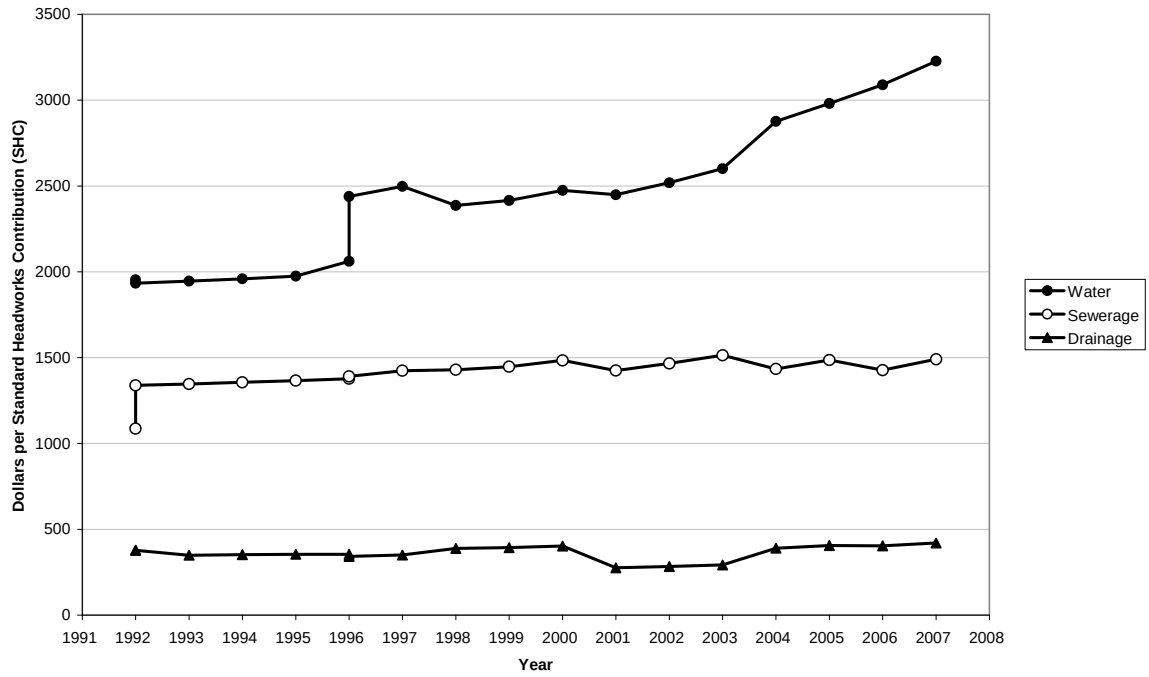
The Corporation has undertaken triennial reviews of the SHC since 1991. During each triennial review, the Corporation is guided by the Urban Development Advisory Committee (UDAC), which reports to the Corporation's Board.[19] The UDAC was established in 1994 to provide advice on policy development and process improvement.

The movement in the SHC over the last 15 years is provided in Figure 3.1.

[18] Water Corporation (2 August 2007), *Water Corporation Land Development Charges*.

[19] The membership of the UDAC includes the Department of Industry and Resources, Consulting Surveyors Western Australia (Inc), Association of Consulting Engineers Australia, Civil Contractors Federation, Landcorp, Housing Industry Association, Urban Development Institute of Australia, Master Builders Association, Western Australian Local Government Association and Water Corporation.

Figure 3.1 Movement in Standard Headworks Contributions Since 1992*



* Note: The methodology underlying the calculation of the headworks charges has changed several times over the years. These changes include amendments to the calculation of the asset base (mostly notably in 1996, where the value of land was included in the cost of the water source assets) as well changes in determining how a charge is determined at an individual lot level. The latest example of this is the recent introduction of Standard Residential Equivalents (SREs) being determined based on meter size. Due to the changes in the methodology of calculating charges for an individual lot, care should be taken in interpreting the year-on-year movements.

Source: Water Corporation

The principles underlying developer charges in the WA water industry have been reviewed a number of times. The review by Marsden Jacob Associates for the Office of Water Regulation in 1997 followed significant increase in charges in the early 1990s (approximately 50 per cent) and then another significant increase in water developer charges in 1995 (approximately 20 per cent). The 1997 review summarised the objectives of developer charges as providing:

- a method of sharing system costs between existing and new customers;
- a funding source supplementing income from annual access and volumetric charges and providing an immediate cash injection to match proposed capital expenditure; and
- a method of allocating risk between the Corporation and developers/major customers.

Further, the 1997 review recommended:

- The NPV approach should be formally endorsed and used consistently as the preferred method to calculate all infrastructure charges applied by the Corporation.

The net present value (NPV) approach recognises that a utility generates revenue from its customers via a service charge, a usage charge and a developer charge. Under the NPV approach, developer charges are set on a locational basis to reflect the costs of servicing

particular developments, and are set after taking into account all of the revenue that is expected to be received from that development, including revenue from the service charge and usage charge. The NPV approach differs to the Corporation's current approach of setting a headworks charge that does not vary across locations.

Following the 1997 review, the Corporation undertook its own review to consider whether it supported the move to an NPV approach. The Corporation did not support the NPV approach for the following reasons:

- It is costly to calculate, and very sensitive to underlying modelling assumptions and data accuracy. A substantial amount of work has already been done by the Corporation in these areas, but further work is required to assess our preparedness to adopt a NPV charging approach.
- It does not guarantee economically efficient price signals. An economically efficient developer charge would reflect the long-term marginal cost of providing additional capacity to service a development, giving developers the incentive to develop where costs are lower. To achieve economically efficient price signals, the level of other Corporation charges would also need to be reviewed so they reflect appropriate marginal costs.
- Western Australian Government policy forces average prices to encourage regional development.

The 2003 Marsdon Jacob Associates review for the Corporation explored the issues further but did not make any recommendations. However, Marsdon Jacob Associates did make some concluding observations, including:

- Water and sewerage infrastructure costs differ from other utilities (electricity, gas and telecommunications) being higher and less flexible in terms of timing.
- Developer contributions are a common method for financing infrastructure in many utilities worldwide. Developer contributions are an appropriate pricing mechanism for the Water Corporation and are seen as such.
- Discounting or abolishing developer charges in order to promote first home ownership would be a very costly and very ineffective policy option to adopt. This is so because in WA less than 20 per cent of new houses are sold to first home buyers and existing homes comprise over 80 per cent of purchases by first home buyers. Moreover, first home affordability in WA remains near historical highs and better than other states.
- In the eastern states, the requirement that developer charges be backed by a development service plan (DSP) has forced a significant investment to better understand costs. This investment is reported to have been recouped through better planning and locational decisions.
- While the Water Corporation does not set the [Standard Headworks Charge] using the concept of "net present value of capital costs with net revenue offset" (i.e., the IPART method), the Corporation's approach also ensures there is no over charging or double dipping.
- The objectives of the State Water Strategy will be promoted by water sensitive urban design, WSUD, including greater (re)use of grey water and stormwater. This requires that developers adopt innovative and thorough approaches to WSUD. One method of providing the necessary incentives to developers to save water and costs by adopting WSUD to allow them to share the gains of reduced costs, i.e., discount the developer charges. This would require the ability to set developer/headworks charges which differ explicitly by location/development.

- The WA development industry sees the logic of a more differentiated approach and would support some differentiation in levels of developer charges to promote efficient infrastructure investment in, and efficient use of, that infrastructure.
- While the development industry wishes to avoid complexity, they see sense in distinguishing the basic charges for water and sewerage infrastructure between, say, the hills and coastal plans for water and say, two to three sewerage zones running concentrically from the [wastewater treatment plants].

3.3 Current Method for Setting Headworks Charges

The Water Corporation has Standard Headworks Charges for water services, wastewater services and drainage services across Western Australia. However, in some areas Special Development Contribution Area Charges apply, to reflect particularly high service costs in those areas.

3.3.1 Standard Headworks Charge

The Standard Headworks Contribution (SHC) is calculated as:

- the total Modern Equivalent Asset (MEA) value of major infrastructure
- *divided by* the number of Single Residential Equivalents (SRE), and
- *multiplied by* 40 per cent (which is the proportion of headworks costs recovered through the headworks charge).

The SRE is defined as the basic annual demand for water, wastewater or drainage services for a single residence in a typical urban location, with the method of calculation agreed with UDAC. The SRE for drainage varies with the type of land use (e.g. commercial, residential, public open space, schools, shopping centres). More detail on the definition of SREs for each service is contained in Appendix 3.

Current SHCs (for the period 1 April 2008 to 30 June 2008) are:

- $3,378 per SRE for water services;
- $1,560 per SRE for wastewater services; and
- $440 per SRE for drainage services.

The total headworks charge for a new development is then calculated as the SHC multiplied by the number of SREs in that development. The number of SREs for a development (or customer) is determined on the basis of meter size and minimum flow rates (see Table 3.1 below for examples).

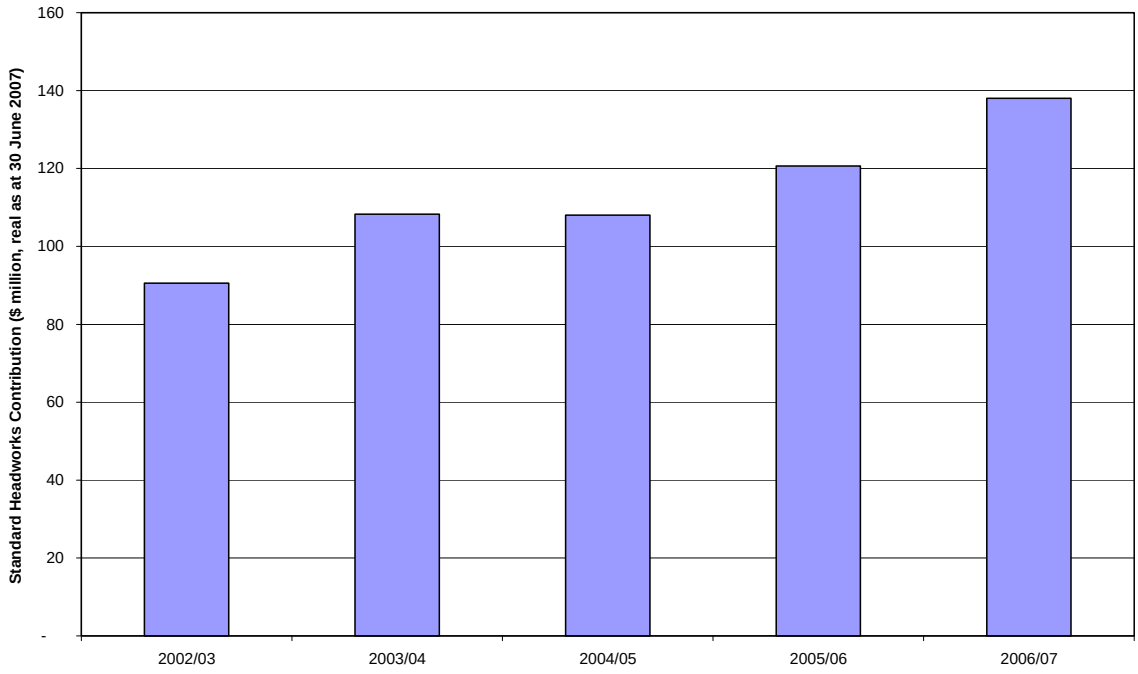
Table 3.1 Standard Residential Equivalents for Different Sizes of Offtakes (Examples)

Meter Size (mm)	Guaranteed Minimum Flow Rate (litres/minute)	Standard Residential Equivalents	
		Water	Wastewater
20	20	1	1
50	180	9	25
50	230	11.5	35
100	600	30	100
100	750	37.5	125
150	1500	75	Individual assessment

Source: Water Corporation Development Services Branch (Information Sheet No. 05A)

Figure 3.2 below shows the revenue to the Corporation from SHCs (in real terms) since 2002/03.

Figure 3.2 Standard Headworks Revenue ($million, Real as at 30 June 2007)



Source: Water Corporation with ERA analysis

3.3.2 Special Development Contribution Areas

Some areas, known as Special Development Contribution Areas, have non-standard headworks charges that differ from the SHC, due to exceptional circumstances that result in infrastructure costs which are considerably higher than the average headworks costs. According to the Corporation, this may be due to:

- developments that occur in advance of the Water Corporation's existing development plans (this is known as "out of sequence development" and is discussed in section 4.4);
- local conditions where construction is difficult and expensive;

- remote developments where the costs of providing water, sewerage or drainage services are significantly higher (15 per cent or more) than the service costs on the system to which they are to be connected;
- rural lot development, defined as lots larger than one hectare (this is discussed in section 4.3);
- competitive developments, where the Corporation submits a commercially determined developer charge as part of a competitive tender process to provide water, wastewater or drainage services; or
- other areas where unique conditions apply, such as a departure for normal service standards or where the developer constructs part of the headworks.

Special Development Contribution Area charges are calculated on the basis of the net present value of future cash flows (i.e. the shortfall between the costs of development and the expected revenue that will be recovered through annual service charges, usage charges and CSOs). The charges are set on a case by case basis, typically in agreement with the developers. Special Development Contribution Area charges represent around three per cent of the Corporation's annual revenue from developer charges.

Two examples of Special Development Contribution Areas are Kalamunda and the North East Corridor of the Perth Metropolitan area.[20]

- In Kalamunda, because of the high costs of sewerage infrastructure in the area, customers pay a contribution, in addition to the SHC, based on the average cost of providing wastewater reticulation in the area. The contribution increases with the number of subdivisions or residential buildings per lot, and the number of major fixtures for commercial buildings.[21]
- The residential development of the North-East Corridor (including Ellenbrook, Upper Swan, Henley Brook) in the 1980s involved high costs due to its remoteness from existing infrastructure, so special developer contributions for water, wastewater and drainage apply at the subdivision stage.[22]

3.4 Water Corporation's Proposed Alternative Approaches

In its submission, the Corporation noted that it may no longer be appropriate to calculate developer charges on the basis of the costs of 40 per cent of the entire asset base. This is primarily because water usage charges now reflect the costs of source development and the Corporation acknowledges that it is appropriate to exclude assets associated with source development from the determination of headworks.

In its submission, the Water Corporation has proposed two alternative approaches to the calculation of headworks charges for water, wastewater and drainage services:

[20] Other Special Developer Contribution Areas exist in Allanson, Australind, Balcatta, Bedfordale, Boddington, Dalyellup, Dampier, Denham, Eagle Bay, Greenough, Margaret River, Malaga, Morley (Galleria), Mount Helena, Mundijong, Paraburdoo, Port Kennedy, Thomsons Lake, Tom Price, South Busselton, Moora and Yallingup.

[21] The additional contribution for a single dwelling in Kalamunda is currently $11,415 (1 July to 30 September 2007).

[22] The special developer contribution for the North East Corridor for the payment period 1 July to 30 September 2007 is $4,915 per SRE for water, $3,436 per SRE for wastewater and $809 per SRE for drainage.

- **Option 1: State-wide uniform charge**

  Under this option, a state-wide uniform charge would be calculated based on the existing state-wide distribution assets for water and wastewater services. Special Area Development Charges for some high cost areas would be retained.

- **Option 2: Scheme-specific charges**

  Under this option, a specific headworks charge would be calculated for each scheme, based on the total cost of the scheme's distribution assets. It is possible that the Perth metropolitan area could be treated as a single scheme. Special Area Development Charges would also be retained under this option, for areas where existing distribution costs were not a good proxy for future development costs.

The key difference between the proposed approaches and the current approach is that under the proposed approaches, the basis for the calculation of the headworks charges would be 100 per cent of the Modern Equivalent Asset (MEA) Value of distribution assets, rather than 40 per cent of the Modern Equivalent Asset (MEA) value of total transmission assets. The Corporation's rationale for this proposed approach is that the cost of new developments is more closely linked to the cost of distribution assets rather than the cost of transmission assets. However, for drainage service charges, the Corporation proposes using a basis of 40 per cent of distribution assets, rather than 100 per cent, as most drainage assets are distribution assets, and using the total cost of these to calculate developer charges would result in very high charges.

> The Corporation proposes an alternative charge based on 100% of the modern equivalent value of the distribution assets for water and wastewater services as (over time) the expansion of the distribution infrastructure is an upfront cost that is directly linked to the added demand caused by new lot development.
>
> Drainage services are essentially all distribution assets. If 100% of the cost of distribution assets was used in the SHC, land developers would pay the entire cost upfront. In consideration of this impact to them, –, the Corporation recommends that the existing proportion of 40% remains.
>
> (Water Corporation, p42)

The Corporation stated in its submission that its preference is for a State-wide uniform charge:

> The Corporation's preference is for Option 1 which essentially retains the nature of the existing developer contribution policies, while refining the method of calculation. (Water Corporation, p31)

Minor Works Cost Sharing

The Corporation has also put forward a proposal for a Minor Works Cost Sharing policy, to address situations where minor water or sewerage mains extensions (to service subdivisions or to connect properties) are entirely paid for by the first person requiring the extension, even though other people might eventually benefit from the extension.

Currently, developers are required to pay for extensions to minor mains. However, the Corporation pays for extensions to water supply mains under certain circumstances: the mains are less than 30 metres per rateable property, a projected cost of $4,000 per rateable property is not exceeded, and no more than 10 properties are supplied. In other circumstances, the Corporation contributes towards the cost of a mains extension up to

ten times the expected annual service charge revenue from the rateable properties in the extension.

The proposed cost sharing policy would allow for future developers who benefit from a mains extension to provide a rebate to the initial developer who funded the works.

> The land development industry, through UDAC, and the Corporation have agreed on a proposed standard charge approach for sharing the cost of minor works. The main advantages foreseen are the new system would be simpler, allows for self assessment, and addresses equity issues promptly, although not precisely.
>
> A fund would be created, administered by the Corporation, into which monies from a standard charge levied on all developments would be paid. Refunds would be paid to initial developers refunding a portion of their actual cost of reticulation extension. The key cost components refunded would be:
>
> - a portion of the actual cost of connecting to the existing scheme;
> - a full refund of the cost of upsizing pipes;
> - an allowance for restoration costs;
> - an allowance for upgrading existing reticulation;
> - a full refund of cost of deeper sewers in normal conditions; and
> - a portion of temporary works, built in lieu of minor works.
>
> (Water Corporation, p29)

Cost refunds are calculated on the basis of the average costs of the assets associated with each type of works, and vary by the length and diameter of pipes.

3.5 Assessment of Options

In assessing alternative approaches to the Corporation's headworks charges, the Authority has applied the general principles for developer charges set out in the preceding section 2.4.

The Authority has compared the options proposed by the Corporation to the current approach, on the basis of:

- efficiency (the exclusion of source costs, locational signals, cross-subsidies and administration costs);
- equity (whether the option should be modified due to particular equity considerations); and
- good regulatory practice (e.g. transparency, review processes and appeals mechanisms).

3.5.1 Efficiency

The key efficiency principle, identified in section 2.4.1, is the establishment of a nexus between a new development and the direct forward-looking costs that are incurred in providing services to the development. In other words, where assets can be directly attributed to a new development, then the developer charges for that development should cover the costs of those assets. The question then is which costs should be directly attributed to new developments.

Excluding source costs

The general principle in relation to the costs of developing new water sources is that these costs should not be included in developer charges and should instead be recovered through usage charges. This view was supported in submissions by the Water Corporation and the WA Local Government Association:

> **Water Corporation**
>
> Future water sources and upgrades to major distribution infrastructure (trunk mains, transfer mains) form the basis of the water usage charge. Accordingly, it is appropriate that these assets are excluded from the standard headworks calculation. Some treatment plants (to the extent that they are connected to the source assets) are also included in the water usage charge. For the sake of simplicity it may then be appropriate to exclude all treatment plants. (Water Corporation, p25)
>
> **WA Local Government Association**
>
> Source costs should be reflected in user charges rather than developer charges. (WA Local Government Association, p.i)

Both of the alternative options proposed by the Corporation exclude source costs, by basing developer charges on existing distribution costs. This is consistent with the general principle. The Authority considers that these options are an improvement over the current approach, which uses total infrastructure costs as the basis for the Standard Headworks Charge.

Draft Finding

18) The alternative methods proposed by the Corporation for determining headworks charges are an improvement over the current approach in that they are based on distribution costs and exclude the costs of source development.

Location signals and forward-looking costs

Under the current approach, the uniform Standard Headworks Charge provides no signals to developers as to the costs of expanding infrastructure in a particular location, although the non-standard Special Development Area Charges provide for some differentiation.

> Non-standard developer charges typically provide location signals in circumstances where it is considered appropriate. In all other instances, [Standard Headworks Charges] apply. These do not currently provide a location signal, but do recognise other principles of equity, certainty, revenue sufficiency, simplicity and contributes to meeting Government's broader social objectives. (Water Corporation, p39)

The two alternative options proposed by the Corporation differ in the extent to which they signal the costs of providing infrastructure in each location. Option 1 is similar to the current approach, in that charges would not be differentiated by location, except where Special Development Area Charges are applied. Option 2, on the other hand, would result in significant variation in prices, depending on the costs of the distribution assets in different schemes, and on how assets are classified between distribution and non-distribution, which is difficult in some towns.

In its submission, the Corporation provided some estimates of the likely variation in charges under the two options. These are summarised in Table 3.2 below.

Table 3.2 Current and Estimated Headworks Charges for the Water Corporation's Water, Wastewater and Drainage Services

		Headworks Charges per Standard Residential Equivalent (SRE)		
		Water	**Wastewater**	**Drainage**
Current Approach[1]		$3,378	$1,560	$440
Option 1		$2,700-$4,800 [2]	$2,400	$440 [3]
Option 2	Metropolitan	$2,400	$2,400	$440 [3]
	Country	$3,300-$10,900 [4]	$2,500 average [5]	$0 [3]

Source: Water Corporation submission

Notes:
(1) Charges for the period 1 April 2008 to 30 June 2008.
(2) The range in estimates is due to differences in the classification of assets between source and distribution. For the lower estimates, trunk, supply and distribution mains are excluded from distribution assets.
(3) Average drainage headworks charges under both options would remain at similar levels to the current drainage headworks charge. Drainage headworks charges apply only to the metropolitan area: drainage headworks costs in the country are recovered through CSOs.
(4) The range reflects differences in the classification of assets between source and distribution as well as differences in costs between schemes.
(5) This figure is an average across country schemes – there would be considerable variation between schemes (see Appendix 6).

The spread of water and wastewater distribution costs in country areas is shown in Appendix 6. The figures show that there is considerable variation in distribution costs, and that distribution costs are sensitive to assumptions on whether particular assets (e.g. mains in some country towns) are classified as distribution or source assets.

In assessing the options proposed by the Corporation, the Authority is interested in establishing how well the resulting charges reflect the forward-looking costs of development.

- Under Option 1, there would be no location signals, apart from some Special Development Area Charges. In this regard, Option 2 is better that Option 1, as it provides a basis for setting developer charges to reflect the costs of development in each location.
- However, both options use existing distribution costs as a basis for calculating the developer charges, rather than forward-looking costs. The exception is in the setting of Special Development Area Charges, which are forward-looking. However, these non-standard headworks charges account for only 10 per cent of schemes.

A key question is therefore whether existing distribution costs are a good proxy for future development costs.

The Corporation has argued against the use of forward-looking costs to determine developer charges, on the grounds of the substantial information that would be required,

and the uncertainty about forward estimates. It maintains that existing distribution costs are a good proxy for future development costs.

> [A]ny charge based on future cost estimates is problematic. The availability, accuracy and reliability of that information may be difficult to ascertain. This is especially the case for country schemes. Existing costs however, are known. Using existing assets may weaken the forward looking pricing signal. However, due to the information constraints existing assets represent the next best proxy for forward looking asset costs – particularly in the case of distribution assets which tend to be relatively modular in nature.
>
> The reduced availability of water sources and increasing regulatory requirements means developing new water sources, water treatment, wastewater treatment and wastewater disposal costs typically increase over time. However, distribution assets comprising of pipes, pump stations and intermediate storages do not usually vary as significantly over time. The modern equivalent value of existing assets is the best available approximation for the cost of future distribution infrastructure.
>
> (Water Corporation, p42)
>
> When considering the use of future assets, the Corporation confronted the following issues:
>
> i) Future (or marginal) costs would deliver the most efficient price signal for a new scheme. That is, if economic efficiency was the primary objective, then developer charges would need to encompass some proportion of the scheme's marginal cost.
>
> ii) Availability of reliable information.
>
> Existing assets are known, the actual expenditure and values are certain with the Corporation's information system are able to track and assign these to schemes with relative accuracy. Future predictions however, are less certain.
>
> The Corporation's capital program can be fairly confident in its one year forecast, and can even provide a reasonable prediction of the 5 year position. However, estimates beyond that can rarely be considered accurate, especially when trying to break the program down to an individual scheme level.
>
> Climate conditions are uncertain, economic prosperity and growth fluctuate, environmental regulations are evolving constantly and social/political pressures are in a constant state of flux.
>
> Calculating charges based on uncertainty presents a risk of under or over charging, may create a significant administrative cost burden and creates expectations within the community of service commitments which may not eventuate for reasons beyond the Corporation's control.
>
> (Water Corporation, pp25-26)

The Corporation has provided further information to the Authority to assist in determining whether average existing distribution costs are a reasonable proxy for future development costs.

- The Corporation's projected headworks program for the period 2008/09 to 2011/12 is $269.3 million, to provide services for an estimated 53,000 properties. This represents an average of $5,080 per property, which is very close to the long-term historical State-wide average headworks charges of $5,100 for water and wastewater services estimated by the Corporation in its submission ($2,700 for water services and $2,400 for wastewater under Option 1).
- However, over the past five years (2002/03 to 2006/07), actual Water Corporation expenditure on distribution infrastructure in the Perth metropolitan area was $226 million, to service 73,000 new lots. This represents an average of $3,100 per lot, which is lower than the $5,100 average charge estimated over the history of the Corporation.

The data suggests that average distribution costs may not always be a good proxy for future development costs. It also suggests that new lots in Perth over the past five years may have drawn on existing spare capacity on the system, resulting in lower development costs than the long-term historical average development costs (however, further investigation is required to clarify the reason for the lower expenditure over the past five years).

This highlights a key problem with basing headworks charges on historical costs. Historical costs include the costs of any existing capacity built into the system to take into account the potential for future developments. This goes against the economic efficiency principle that developers should at least pay their forward-looking direct costs, and that the risks associated with the costs of any over-sizing of capacity to meet additional demand should be borne by the utility, and the costs recovered from those for whom the spare capacity was provided.

Using historical costs to set developer charges also has the potential to produce perverse price signals. For example, a town with a low population density but a large distribution infrastructure with plenty of spare capacity would yield high headworks charges (i.e. the cost of the existing assets, divided by the number of standard lots). However, this is the sort of setting where low developer charges would be desirable – to signal to new developers that there is spare capacity on the system and that the costs of development are low. For this reason, forward-looking costs are a better guide to the efficient location of new developments.

In order for existing distribution costs to provide a reasonable proxy for forward-looking costs, two adjustments would need to be considered.

1) An adjustment to take into account existing spare capacity on each system.

   It is possible that the Option 2 proposed by the Corporation could be adjusted to take into account existing spare capacity. For example, systems that have spare capacity greater than a specified level (say, 50 per cent of system capacity) could have lower developer charges.

2) An adjustment to take into account any over-sizing of assets to allow for future demands from other developments.

   However, the Minor Works Cost Sharing policy proposed by the Corporation (and discussed below) could also effectively achieve this adjustment, by enabling future developers who benefit from mains extensions to effectively refund initial developers, so that developers pay no more than their direct costs.

   Thus, a modified Option 2 – with charges adjusted to reflect existing spare capacity – in combination with the Minor Works Cost Sharing policy, could represent a reasonable proxy for forward-looking costs.

A further check on whether historical costs are a reasonable proxy for forward-looking costs would be to review periodically whether development costs match the revenues received from developer charges. This issue relates to the role of independent regulatory scrutiny (e.g. periodic reviews) in the setting of developer charges, and the accountability of the Corporation for the revenues it receives from developers (see further discussion in section 3.5.3 below).

Minor Works Cost Sharing Policy

There was support in submissions for the proposed Minor Works Cost Sharing policy.

> **Aqwest**
>
> Aqwest supports the Corporation's proposal to introduce a minor works contribution policy. (Aqwest, p3)
>
> **Urban Development Institute of Australia**
>
> UDIA fully supports the cost sharing of minor works between developers and the Water Corporation and believes that it is a fair and reasonable approach. The developers charged must be those with a direct benefit on the land impacted by the minor works.
>
> As with any charges, these should be applied in a transparent manner, with all costs detailed and accounted for. (Urban Development Institute of Australia (WA), p3)

The Authority agrees that there may be a case for allowing some share of existing distribution costs to be allocated to developers. The Minor Works Cost Sharing policy proposed by the Corporation seems an appropriate mechanism for sharing costs between developers over time. The policy is also consistent with approaches used in other sectors. For example:

- Western Power introduced a high voltage pool in 1999 to share the costs of high voltage infrastructure between developers:

  > Due to the use of standard size components for network planning purposes, the HV electricity infrastructure of a subdivision often provides capacity in excess of that required by the subdivision.
  >
  > It was often the case that the first developer in an area paid for the entire HV electricity infrastructure required to service the area. The excess capacity was then utilised by subsequent developers without contribution to its cost.
  >
  > The HV Pool mechanism was introduced as part of Western Power's pricing strategy to address inequities between developers…[23]

- The capital contributions policy under the State Electricity Access Regime provides for rebates where new users subsequently connect to an extension.[24]

- Under Western Power's capital contributions policy, where an applicant (defined as a user, developer or customer) has made a capital contribution of more than $100,000, Western Power and the applicant may negotiate for Western Power to pay a rebate to the applicant when subsequent applicants benefit from the works funded by the capital contribution.[25] The rebate is determined by apportioning the amortised contribution amount according to the contracted capacity of each applicant.[26] In addition, when calculating the forecast costs of the works, if Western Power anticipates future users for the works, it will apportion the costs of the works between the original applicant and future users on the basis of the anticipated capacity utilisation.

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[23] Western Power (May 2007), *Underground Distribution Schemes*, 5th edition, Revision 1, p21.

[24] See Appendix 4 (Model Capital Contributions Policy) of the *Electricity Networks Access Code 2004*. The same approach is adopted under the National Gas Access Regime.

[25] Western Power (2 April 2007), *Amended Proposed Access Arrangement for the South West Interconnected System*, Appendix 4, "Capital Contributions Policy". Rebates may also be negotiated for capital contributions of less than $100,000, although new applicants must benefit from the capital works within 10 years of the capital contribution.

[26] The contribution amount is amortised in a straight line over ten years.

Alternative Approaches

The Authority considered whether there were any alternative approaches to setting headworks charges that would be better than a modified Option 2.

- **ESC approach**

  The ESC in Victoria applies a uniform developer charge which is a nominal contribution by developers towards distribution developer costs ($500 per service). However, the Authority considers that a modified Option 2 would be better than the ESC approach, as it would allow for the signalling of location costs across the State. Further, the ESC approach does not allow developer charges higher than the flat charge (except for out of sequence developments), whereas the Corporation's approach would still allow for non-standard charges in areas where costs were higher.

- **More Special Development Contribution Areas**

  Another option would be to extend the application of Special Development Contribution Area charges, which are based on forward-looking costs, to towns where there is a mismatch between historical costs and future development costs, could be applied. This already applies if future development costs are significantly higher than average, but could also be extended to towns where future development costs are lower than average.

- **Development servicing plans**

  A more sophisticated approach would be to set developer charges on the basis of the forward-looking development costs of each development, taking into account the future revenues which would be recovered from each development. This is the net present value approach adopted by IPART in NSW.[27]

  However, an approach based on development servicing plans would involve substantial information requirements (on future development costs and demand) and administration costs. One reason that the ESC opted for a uniform developer charge was that it felt the benefits of a net present value approach did not outweigh its administrative costs. Sydney Water is reported to have taken three years and spent $6 million on its Development Servicing Plans.[28]

- **Western Power approach**

  The Western Power approach to distribution headworks is underpinned by the New Facilities Investment Test (NFIT), an element of which is whether the costs of development can be recovered through future tariffs (see Appendix 4 for a discussion of the Western Power approach and Appendix 7 for a description and discussion of the NFIT). Distribution headworks charges are applied only in cases where new developments do not pass the NFIT. The Western Power approach to distribution headworks has some advantages in that it sets developer charges based on future expectations of revenues and development costs. However, it would be administratively complex to apply the NFIT to the water industry. Further, the Western Power approach treats the developer charge as the residual

[27] However, IPART allows for some source costs and some excess capacity in the existing network to be included in developer charges, if they can be attributed to the development. This is not consistent with efficiency principles.

[28] Marsden Jacob Associates (20 August 2003), *Infrastructure Costs and Contributions*, a report to the Water Corporation, p68.

charge to recover the utility's revenue for a particular scheme for up to 15 years, taking into account potential future developments. This is efficient only if the existing tariffs have been set efficiently.

Given the administrative costs associated with development servicing plans or applying a New Facilities Investment Test for each scheme or development, the Corporation's approach – if appropriately modified to take into account spare capacity – could be a reasonable balance of economic efficiency and administrative practicality.

The Authority invites the Corporation to consider the adjustments suggested to their Option 2 and advise the Authority on the reasonableness of this approach in their submission on the Draft Report.

Draft Finding

19) Of the two options proposed by the Corporation, Option 2 is better than Option 1 in terms of economic efficiency, as it provides scope for setting headworks charges which reflect development costs at each location.

Draft Recommendation

20) A modified Option 2, which takes into account existing spare capacity, in combination with the Minor Works Cost Sharing policy, would be a more efficient approach to setting headworks charges. This approach would be less administratively complex than other approaches, such as those adopted by IPART or Western Power, while potentially representing a reasonable approximation of the forward-looking development costs in each scheme.

Water Sensitive Urban Design

Many submissions recommended that developer contribution methodologies provide incentives to developers to use design principles which encourage water efficiency (Water Sensitive Urban Design (WSUD) principles).

Water Corporation

Sustainability – under the Terms of Reference, when determining developer charges due regard should be had for the Government's social, environmental and economic policy. The extent to which charges encourage water sensitive urban design should therefore be considered. (Water Corporation, p41)

As the State encourages the sustainable development of land and the sustainable construction of houses, an emerging trend is for both developers and water utilities to consider providing a range of service options which fall under the collective title of Water Sensitive Urban Design (WSUD). Examples of this include:

- providing fit-for-purpose water supply;
- wastewater and/or stormwater reuse systems;
- improvement in drainage water quality.

With many of the potential initiatives, the cost is borne by the land developer (or individual constructing the house) and in some instances, results in savings to the utility. Under the current charging structure, the Corporation passes on water cost savings back to the property's occupant in the form of lower usage charges but does not currently have a mechanism for passing on savings in the water distribution, wastewater or stormwater systems. Where developer initiatives result in savings to the Corporation – it may be

appropriate that these savings are passed back to developers as a reduction to the SHC. (Water Corporation, p27)

WA Local Government Association

The developer contributions should provide incentives for developers to lower demands on water and drainage infrastructure; and provide incentives for the Water Corporation to seek and invest in innovative technologies to deliver these essential services in more efficient ways. (WA Local Government Association, p.i)

Department of Water

The structure of standard headworks charges offers no incentives for water sensitive urban design or for targeting strategic outcomes such as water efficiency, stormwater collection and quality, and water recycling.

Alternative water-supply measures undertaken by developers and water sensitive urban design can reduce the loads on shared water supplies, wastewater and drainage infrastructure. The Authority is encouraged to consider whether water-wise urban design would be encouraged through incentives built into developer charges. (Department of Water, p7)

Urban Development Institute of Australia (WA)

UDIA is of the opinion that this review should also consider the use of offsets for headworks charges. Offsets offer a form of competition that is appropriate to the water market and it is incumbent on regulators to incentivise and legitimise the use of offsets so that the appropriate use of all forms of water has greater traction in the industry. There is no place for water re-use in the form of treated wastewater or recycled grey water under current pricing structures, and the authority needs to reflect the innovative use of water in all its forms through pricing mechanisms which offer incentives to the development industry to promote alternative water uses. UDIA believes that developers should be encouraged and rewarded for thinking 'outside the square' when it comes to implementing the use of alternative water sources in their developments.

As an example the first 'third pipe' scheme in residential development in Perth paid full headworks charges for the potable scheme when only 50% of the water demand for 1,500 dwellings will be required. At the same time the developer had to fully fund all headworks infrastructure for the non-potable scheme. There need to be offsets from potable to non-potable schemes as well as other financial incentives for developers to pursue water efficiencies and source substitution that are in the community's best interests. (Urban Development Institute of Australia (WA), p4)

Department of Planning and Infrastructure

The WA Planning Commission and DPI support refinements to the methodology or basis for calculating charges to create an incentive for developers to adopt water cycle management strategies (for example rebates or discounts for infrastructure which reduces potable water consumption and/or increases use of recycling and on-site containment of stormwater wherever appropriate). (Department of Planning and Infrastructure, p1)

Housing Industry Association

Developers should also be encouraged to adopt water sensitive urban design initiatives in their developments. These should be provided on a least-cost-per-household basis, which typically means that solutions lie in higher order, estate-based infrastructure rather than individual household innovations. Governments should directly fund or provide financial incentives for ensuring that these broader-based infrastructure solutions con be mode available to future residential communities. (Housing Industry Association, p8)

Recent droughts and the prospect of a drying climate in many parts of Australia has led to a growing call for investment in water efficient technologies and design. The ESC, in its current review of developer charges to water businesses, is currently assessing a

proposal the Victorian Water Industry Association (VWIA) to charge developers different levels of new customer contributions depending on the water use efficiency of new developments. Under these proposal, new developments which will have a low impact on future demand would pay the lowest level of developer charges, while developments creating a high demand for water resources would pay the highest level of developer charges. (See Appendix 4 for further details of this proposal.)

There are two issues regarding the impacts of WSUD in new developments: the impact of water efficiency on the need for new sources; and any resultant savings in the distribution costs of new developments.

- As a general principle, the Authority considers that it is customers, through their decisions on water usage, rather than developers, who are the decision makers best placed to influence when new sources are developed. If water usage charges are based on long run marginal costs, they will reflect the portfolio of options which will balance supply and demand over the long term at least cost (while meeting environmental, health and other standards). In determining this portfolio of new sources, the use of WSUD should be considered on the same basis as other options for balancing supply and demand.[29]
- However, if WSUD were to result in savings to the Corporation in distribution costs for new developments, then these savings should be reflected in the form of lower developer charges.

Under an Option 2 approach, developer charges would be based on the average historical distribution costs for a scheme, and would therefore not incorporate any savings in development costs resulting from WSUD in new developments.

- One approach to address this would be to calculate reductions in developer charges on a case-by-case basis, such as the developer charges in Special Developer Contribution Areas.
- Alternatively, classes of new developments could be determined, on the basis of the savings in development costs due to WSUD. If reductions in the SHC could be tailored to reflect these cost savings, then this could be a reasonable approach to reflecting the direct costs incurred by developments. While this would involve more averaging than under a case-by-case approach, it would be simpler to administer.

Draft Recommendation

21) If Water Sensitive Urban Design principles result in savings to the Corporation in the distribution costs of new developments, these cost savings should be reflected in developer charges.

Summary - Efficiency

The Authority considers that it is worth investigating if Option 2 could be modified to take into account existing spare capacity. A modified Option 2, along with a mechanism for sharing the costs of over-sizing assets between developers, could offer advantages over

[29] A further question (if WSUD is determined as a suitable option for balancing supply and demand) is whether developer charges would be the best way of achieving WSUD, rather than mandated standards for different types of new developments.

other approaches examined by the Authority, by providing a reasonable proxy for future development costs and avoiding the administrative complexity of applying a net present value approach to each scheme or development. Additional adjustments could be considered to take into account savings in distribution costs associated with WSUD.

3.5.2 Equity

Having identified a modified Option 2 as a reasonable approach, based on efficiency principles, to setting headworks charges, the next question is whether this approach would need to be further adapted for equity reasons.

The relevant equity issues are:

- the variation in charges across regions, and its impact on customers and regional development; and
- the impact on tariffs to existing customers from any changes in the level of revenues from developers.

Impacts of Location-Specific Developer Charges

The modified Option 2 would, as for Option 2, result in considerable variation in developer charges across the State. While it has not been possible for the purposes of the Draft Report to identify the implications of a modified Option 2, the Corporation has provided information on the average water and wastewater distribution costs for country properties (see Appendix 6). These figures show a large range for each service, to over $10,000 per property in the case of wastewater and $50,000 per property for water. Distribution costs are also sensitive to assumptions about whether assets are distribution or source assets, which is less clear in some country towns. Therefore, if developer charges were to reflect average distribution costs, the variation in charges across the State could be considerable.

The Corporation noted that any move towards cost reflectivity in headworks charges would result in large increases in developer charges in areas that were expensive to develop, but also noted that these charges could be capped through explicit Government subsidies:

> There are many principles to be considered when setting developer charges – cost reflectivity is one of them. Revenue sufficiency, intergenerational equity, customer impact, impact on developers and the Government's broader social and environmental policies are additional considerations.
>
> The current arrangements for standard and non-standard charges, in conjunction with the annual rates and fees seek to balance these various objectives including (where appropriate) cost reflectivity.
>
> If cost reflectivity was considered the primary objective, this may require significant increases to the developer charges for a number of country schemes. In consideration for the Government's regional development objectives, the Corporation would encourage the implementation of a cap for high cost country schemes. (Water Corporation, p41)

It is a matter for the Government as to whether high charges in regional areas or to particular customer groups should be subsidised to meet social or regional policy objectives. For example, the Regional Headworks Program, developed as part of the Government's regional development policy, provides subsidies to regional businesses and organisations to offset headworks charges (see section 2.4.2). Also, the Western Power distribution headworks scheme includes caps and subsidies in high cost areas. Likewise,

the modified Option 2, recommended by the Authority for further investigation, could be supplemented by explicit CSO funding of caps or subsidies to moderate the impacts of high developer charges in some regions.

However, as discussed in section 2.4.2, the provision of subsidies to particular regions will be offset by welfare losses in other regions. Further, the impacts of subsidies for developer charges in regional areas is unclear. Thus, any policy to subsidise developer charges should be assessed by Government in terms of alternative uses for Government revenue.

Draft Recommendation

22) A modified Option 2, if implemented, could be supplemented by explicit caps and subsidies to offset high charges in some regions through CSOs. However, such government subsidies should be evaluated against the welfare gains of alternative uses of government revenue.

Impacts on Tariffs

A further consideration is the impact of any changes in developer charges on tariffs to existing customers. The Water Corporation submitted that an important principle when considering alternative approaches to developer charges is that the level of upfront revenue collected through developer charges be maintained, in order to provide sufficient funds for future capital programs and avoid additional tariff increases:

> [A]ny change in the method for calculating developer charges should aim to deliver a similar amount of upfront revenue as is currently forecast…
>
> Any reduction in developer contributions will need to be recovered through increases in annual rates and charges. These annual fees are already forecast to increase – any further pressure caused by a change in the pricing structure needs to be carefully considered.
>
> (Water Corporation, pp18-19)

It is not clear whether a modified Option 2 would result in an increase or decrease in revenues from developers (the Corporation is invited to consider this in their response to the Draft Report). However, the Authority considers that it is important to set developer charges according to efficiency principles, which includes considering revenue and tariff impacts.

3.5.3 Good Regulatory Practice

The options proposed by the Corporation would retain many of the features of the current approach to headworks charges. The general principles for good regulatory practice, set out in section 2.4.3, as well as the responses to the issues paper, suggest that a modified Option 2 would benefit from improved review processes and public consultation; independent regulatory scrutiny; and the availability of an appeals mechanism. Transparency and simplicity were also highly valued.

Review Processes and Public Consultation

The issues paper asked the question as to whether the current review process for the Corporation's headworks charges were adequate. The current review process relies substantially on the involvement of the Urban Development Advisory Committee, which represents and consults with developers.

> The current headwork charges have been developed over 30 years with the continual involvement and review of the development community, currently represented by the Urban Development Advisory Committee (UDAC).
>
> In particular, UDAC fulfils the responsibilities to provide:
>
> - external representative input to review policies, processes, standards, practices and Corporation performance particularly where these impact on land development activities state-wide;
> - advice on improving processes associated with the Corporation's involvement in land development activity; and
> - advice on performance indicators the Corporation should adopt and how the development industry could be better served by the Corporation.
>
> To date, the governance role exercised by UDAC has been highly successful.
>
> (Water Corporation, p43)
>
> To date, the governance role exercised by UDAC has been highly successful as confirmed by regular independent polling of members of the land development industry (currently carried out by Synovate).
>
> A major reason put forward by proponents of a formal external regulatory environment is to ensure equity and efficiency in the provision of service infrastructure. The Corporation's "Triennial Review" conducted to review the process of setting future developer contribution charges, under the oversight of UDAC has satisfied this need for independent external input.
>
> The Corporation proposes to retain the current active role for UDAC, as the blend of industry representatives has successfully resulted in a robust body which has met the expectations of the Corporation and the land development industry to date.
>
> Should the Government deem it necessary, there could also be a role for an independent review of the pricing setting process which oversees the Water Corporation's current arrangements with UDAC. This external oversight may be undertaken by an organisation such as the ERA. In this instance, the current arrangements with UDAC may need to be revisited to ensure no inefficient duplication of effort occurs.
>
> (Water Corporation, p37)

The Authority views the role of the Urban Development Advisory Committee as being useful in providing a forum for developers to provide significant input into the design of developer charges. However, consultation on developer charges could be further widened beyond the development community. Public consultation on developer charges and charging mechanisms could be a part of any independent regulatory review, if this were to be introduced.

Independent Regulatory Scrutiny and Accountability

Several submissions indicated support for the regulation of developer contributions to ensure total revenues recovered no more than efficient costs:

Water Corporation

Water Corporation agrees with [the principle that total revenue from developer charges, service charges and usage charges should be no greater than the efficient cost of providing the service] and meets this objective through the annual pricing and budgeting process. The ERA provides an independent review of this process. (Water Corporation, p39)

Urban Development Institute of Australia (WA)

UDIA would like greater transparency around Water Corporation's total revenue streams to ensure that the current, as stated 40% recovery of infrastructure costs being levied to developers, on a per lot basis, is fair and equitable. Industry would like greater clarity on the 40% / 60% expenditure breakdown and suggest that ERA investigate how money raised from charges is spent, that is the proportion of monies spent on infrastructure construction, investment, maintenance and profit paid to State Revenue. Greater transparency is needed to ensure the Water Corporation is operating and investing sufficiently in the maintenance of infrastructure, and also that water consumption tariffs levied on home occupiers are fair and equitable. UDIA wishes to continue its participation in the ongoing setting of charges as it currently is through UDAC. (Urban Development Institute of Australia (WA), p2)

WA Local Government Association

While conceptually [the Corporation's Standard Headworks Charge] approach is simple, the actual average network development cost is not clear. In particular both developers and water consumers need to be able to be confident that:

- Development contributions are not needed to address previous under-provision of infrastructure, or inadequate maintenance and upgrading practices; and
- An economically optimal standard of engineering is applied, neither "gold-plating" the infrastructure nor under-investing, leading to high operating / maintenance costs or repeated need to upgrade the system.

(WA Local Government Association, pp1-2)

The Urban Development Institute of Australia raises the point that the Corporation should be accountable for the revenues it receives from developers. The Authority agrees that a principle of good regulatory practice is that developer charges should be subject to independent regulatory review. Such a review could determine whether total revenues from all sources, including contributions from developers, are no greater than the efficient costs of service. In the case of developer charges, comparing development costs over a given period with developer contributions over that period could provide a useful check on whether or not developer charges – based on historical costs – are an adequate approximation of forward-looking development costs. A review could also extend to the structure of developer charges and the efficiency of the developer charging methodology. One possible avenue would be to extend the terms of reference for the major review by the Authority of the Corporation's prices (carried out every three years) to include an examination of developer charges.

A further issue that was raised in submissions was that of the funds available for drainage services. The Department of Water submitted that the current model for drainage funding – part of which comes from developer charges – is inadequate.

> As part of this inquiry the authority is encouraged to examine the adequacy of funding for drainage. The Department of Water believes that some environmental groups and local governments have a perception that drainage is not funded to a level that allows for the improvement in drainage design. It is also the case that drainage development now has a greater strategic focus as a potential water source. (Department of Water, p6)

The issues of drainage funding is one that is generating increasing interest amongst developers, local government and other organisations. The Department of Water is currently undertaking a review of funding mechanisms for drainage services. It is a matter for Government whether these issues need to be further investigated through a formal review.

Transparency and Simplicity

Several submissions raised the point that the Corporation's current approach to headworks charges lacks transparency, especially in the way Special Development Contribution Area charges are worked out.

> **WA Local Government Association**
>
> A clear set of guidelines are required to define situations where Special Developer Contribution Areas are declared. (WA Local Government Association)
>
> **Urban Development Institute of Australia**
>
> It is UDIA's view that the facility for the property industry to negotiate Special Contribution Area Charges if and when they occur should continue. As with all calculations, this process must be transparent to ensure that the outcome is fair and equitable both to the developer and the service provider.
>
> A formal review process for Special Developer Contribution Area Charges should be established and undertaken on a regular basis to monitor the need for these charges. It is important to keep track of the relevance of the charge to determine when it is no longer required, so that the property industry and in turn the consumer are not overcharged. A case in point is the recent removal after more than 20 years of the Special Area Charge over the North West Corridor. The charge was not subject to regular review and was applied unnecessarily for many years. It could be argued that refunds to developers should be provided if over charging occurs. This outcome must be avoided in future application of these charges. (Urban Development Institute of Australia (WA), p3)
>
> **N. Thomson**
>
> [W]here a developer chooses to connect to the Water Corporation, the decision rule about the attribution of new capital works costs should be transparent and equitable (e.g. not reliant on arbitrary up front charges for actual capital works, but built into the water charge over the life of the infrastructure and shared so all existing and potential users eventually pay in a commercially appropriate and equitable way). (N. Thomson, p2)

On the other hand, the simplicity of the current approach drew support:

> **Water Corporation**
>
> Standard headwork contributions are also relatively simple to administer. (Water Corporation, p1)
>
> **WA Local Government Association**
>
> A complex, site specific regime may delay development, and add significant costs without demonstrable benefit. (WA Local Government Association, p4)
>
> **Department of Water**
>
> The current method of charging for SHC would pass a 'reasonableness' test for its simplicity. (Department of Water, p9)
>
> **Department of Planning and Infrastructure**
>
> The preliminary view of the WA Planning Commission and DPI, as a joint general position, [is that]…the current system of developer contributions has widespread industry

> acceptance and is consistent with the planning approval process. (Department of Planning and Infrastructure, p1)

The Great Southern Development Commission noted that uniformity provides certainty to developers.

> Uniform state-wide charges have the potential to give developers added certainty in determining project costs. A range of factors already adversely impact development in regional areas. Defined and consistent cost structures reduce uncertainty and enhance opportunities for regional investment. It is recognised, however, that Water Corporation needs to retain some flexibility towards non-standard developments. (Great Southern Development Commission, p3)

The Authority accepts that with any system of developer charges transparency about the charging methodology and the principles on which it is based is vital. The comments raised in the submissions suggests that there is scope for improving transparency about how developer charges are determined.

The modified Option 2 would be more complex than the current methodology or Option 1 (which is preferred by the Corporation). However, simplicity is not a desirable feature in itself, as it is more important that charges are set on the basis of efficiency and equity principles. A complex approach can still be optimal if its methodology and principles are transparent. It is only if the methodology gives rise to significant administration costs that outweigh the benefits of the additional complexity that a simpler approach may be preferable. The Authority is of the view that the benefits of moving to a system of location-specific headworks charges would warrant the additional complexity in methodology.

Appeals Mechanism

The Corporation noted in its submission that there is no appeals mechanism under the current approach.

> Currently, there is no appeals mechanism in WA for the Water Corporation's developer charges. Under the current governance model, the charges are set by the Corporation with the close involvement of UDAC.
>
> There has been little call for an appeals mechanism as the blend of industry representatives (through UDAC) has successfully resulted in a robust body which has met the expectations of the Corporation and the land development industry to date. (Water Corporation, pp43-44)

The Authority considers that, in line with the principles of good regulatory practice, any system of headworks charges by the Corporation should include a mechanism for those paying headworks charges to appeal against the charges and how they are determined

Summary – Good Regulatory Practice

Draft Recommendation

23) A modified Option 2 should incorporate principles of good regulatory practice, including an independent review process, public consultation, transparency in design and application, and a mechanism for appeals.

3.6 Conclusion – Approaches to Headworks Charges

Section 2 developed general principles for developer charges regarding economic efficiency, equity and good regulatory practice. The Authority has applied these principles in assessing the alternative approaches to headworks charges proposed by the Corporation in its submission against the current approach and other alternative approaches.

On the basis of efficiency principles, the options proposed by the Corporation have some advantages over the current methodology, in that they exclude source costs (developer charges would be based on distribution development costs). Under both options, developers would continue to pay for reticulation assets within new developments, and this, too, is efficient. Option 2 is better than Option 1 (and the current approach) as it offers greater scope for setting headworks charges to reflect local costs.

However, both options are inconsistent with efficiency principles in that they are based on existing development costs, which are not a good proxy for forward-looking development costs. Instead, the Authority favours a modified Option 2, adapted to take into account existing spare capacity and over-sizing of assets for future demand, and recommends that this be further investigated. This option has advantages over other approaches based on direct estimation of the forward-looking costs of development in that the modifications could achieve a reasonable proxy for forward-looking costs while avoiding administrative complexity.

It is a matter for Government to determine whether a modified Option 2, if implemented, should be supplemented by explicit subsidies to cap high charges in some areas. However, the use of subsidies for developer charges in regional areas should be assessed against the welfare gains of alternative uses for government revenues.

In terms of good regulatory practice, the option should also incorporate independent review process, public consultation, independent regulatory reviews, transparency regarding the charges and how they are derived, and an appeals mechanism.

4 Water Corporation's Other Headworks Charges

4.1 Terms of Reference

The Authority is expected to consider and develop findings on:

4. the efficient and equitable recovery of the cost of minor works (connecting works) for frontal and out of sequence developments, having regard to the appropriate cost and risk sharing arrangements between different developers over time;
5. major customer charges for development of infrastructure for high volume customers in country areas; and
6. headworks contributions for temporary connections to Water Corporation services.

4.2 Introduction

This section focuses on a specific set of non-standard developer charges:

- **Rural lots** are currently charged non-standard developer charges based on net present value calculations. However, the Corporation has proposed that these lots be charged on the basis of the Standard Headworks Charge.
- **Out of sequence developments** – developments which are brought forward ahead of a development schedule – attract non-standard headworks charges.
- **Major customers in regional areas** (such as large industrial customer or mines) pay non-standard headworks charges. Customers with a peak day demand of 49 kL or more pay capacity charges on the basis of a notional cost of augmenting capacity to meet a large increment in demand.
- **Temporary connections** – customers who connect to a system for a short period, (e.g. to obtain water for building and construction) also pay non-standard headworks charges.

Other non-standard developer charges, such as Special Development Contribution Areas charges, which apply where infrastructure costs are significantly higher than average, were discussed in section 3.3.2.

New developments that take place at the edges of an existing system (frontal works) are generally charged the Standard Headworks Charge, unless there are exceptional costs, in which case Special Development Contribution Area charges are applied. For this reason, frontal works are not considered here, but have been discussed in section 3.5.1.

The terms of reference also refer to the recovery of the costs of minor works. This was discussed in section 3.5.1 on the Corporation's proposed Minor Works Cost Sharing policy.

4.3 Rural Headworks Contributions

4.3.1 Background

Special provisions apply in the case of headworks charges for rural subdivisions for residential purposes (defined as lots greater than one hectare and less than four hectares). These blocks are required under State planning policy to have a reticulated water supply by a licensed provider.[30] Developer charges for these subdivisions are determined using a net present value approach, as set out in the Corporation's policies and procedures for land servicing:

> The financial analysis should be undertaken in line with the Corporation's agreed methods of analysing new business on a discounted cash flow basis.
>
> The Net Present Value (NPV) of the incoming and outgoing cash flows should exactly balance, with the subdivider's financial contribution being the variable.
>
> The outgoing cash flow will include initial capital expenditure and all future replacements, cost of operating the scheme, inclusive of overheads. In addition, for situations where the proposed scheme will connect to an existing scheme, the expenditure for the provision of notional headworks. Notional headworks expenditure considers the "off site" headworks already placed and all future augmentation and replacement thereof.

However, the Corporation has proposed that it may be more appropriate to charge developers of rural lots greater than one hectare at the Standard Headworks Charge rather than the charge that is calculated by using the net present value approach. The rationale is that the majority of the works on rural lots are on the reticulation assets, which are already paid for by the developer, rather than on the distribution assets. By comparison, developers of small rural lots (less than one hectare) currently pay the Standard Headworks Charge.

> [One] area under the current structure that could be considered further [is] charging country lots greater than 1 hectare under the uniform meter based SHC structure rather than separately calculating the charges using the net present value approach.
>
> Currently, country services for lots greater than 1 hectare based on the present value of the marginal costs associated with the development. This was introduced because it was thought that large country lots placed a significant cost imposition on the Water Corporation for the additional pipe work required. However, in practice the majority of the additional piping required is the reticulated works which are provided by developers. The marginal cost impact to the Corporation is minimal.
>
> Accordingly, lots greater than 1 hectare pay the full cost of providing the service. Smaller lots which may still cost the same to service are provided at the SHC which in country regions is usually subsidised. This disparity between small and large lots should be removed.
>
> (Water Corporation, p28)

4.3.2 Analysis

If it is the case that rural subdivisions between one and four hectares generally impose few additional development costs in comparison to small rural lots, then there may be grounds, on the basis of simplicity and lower administrative costs, for extending the Standard Headworks Charge to these rural lots.

[30] Statement of Planning Policy 2.5 (SPP2.5), Agricultural and Rural Land Use Planning, available from the WA Planning Commission; section 5.3.2 (Additional Scheme Provisions for the Rural-Residential Zone).

However, the Great Southern Development Commission noted that the current net present value methodology applied to rural subdivisions can result in very high headworks charges for rural lots.

> [I]n the case of rural subdivisions for created lots of 2 hectare and greater, Water Corporation's developer contribution policy dictates that full commercial service costs will apply. That is, the Standard Headworks Contribution does not apply. In some country areas the full commercial cost can be in excess of $15,000 per lot. These high costs have restricted the availability of lots in country towns and communities because the cost of providing the infrastructure has pushed lot prices over the market value. (Great Southern Development Commission, p2)

This example appears to contradict the Corporation's claim that rural subdivisions do not impose significant marginal costs on the Corporation. High charges for some rural subdivisions (such as the examples above) could simply mean that the development costs – calculated on a net present value basis, and excluding the costs of reticulation assets, which are paid for by developers anyway – are high for those particular subdivisions. It may be possible to apply non-standard charges in particular cases where such subdivisions incur high development costs.

Given the example cited by the GSDC, the Authority would like to further investigate the Corporation's analysis of development costs for one to four hectare rural subdivisions to determine whether they involve similar development costs to smaller rural blocks.

Draft Finding

24) The extension of the Standard Headworks Charge to rural subdivisions between one and four hectares may be appropriate if the development costs imposed on the Corporation are similar to those of smaller rural blocks. However, the Authority would like to further examine the Corporation's analysis of development costs for rural subdivisions.

4.4 Out of Sequence Developments

4.4.1 Background

The Corporation has a separate charging policy for developments that cannot be serviced either by the existing infrastructure or by an extension of reticulation from the currently serviced area that is closest to the development. In these circumstances, the Corporation requires the developer to make an up-front contribution to cover the cost of the necessary connection works or to pay the Corporation to arrange the connection works to be undertaken. The contribution is refunded either in full or in part after an agreed time or when a certain outcome is reached (for example, after a certain number of houses are built).

In addition, if a new development is so remote that it results in a per lot servicing cost that is significantly higher than lots in the wider scheme or requires an increase in the Community Services Obligation payment, the developer is required to fund the shortfall. This charge is in addition to the Standard Headworks Contribution.

Out of sequence costs are calculated by comparing the present value of development costs, net of anticipated revenues, of the original development plan over 50 years with the

present value of development costs, net of anticipated revenues, of the development plan with the proposed out of sequence development. The difference between the two present values is the out of sequence cost.

As in the case of other Special Development Contribution Area charges, developer charges for out of sequence developments must be approved by the Urban Development Advisory Committee, which includes members of the Urban Development Institute of Australia (representing developers). Developers would also be able to appeal to the Minister against any charges.

Another alternative for developers who wish to bring forward new developments is to pay for the entire development costs associated with the new development, including any works provided by the Corporation. In these cases, the developer would expect to recoup the development costs (e.g. through land sale prices) and bears the entire risk that they are not.

4.4.2 Analysis

Other inquiries have considered the issue of out of sequence development. As discussed in section 2.4.1, the Productivity Commission considers that out of sequence developments are efficient provided that developers bear the financing costs of bringing forward developments that happen ahead of schedule.

The Public Accounts Committee's Inquiry into Developer Contributions for Infrastructure Costs Associated with Land Development also considered this issue, and recommended:

> Greenfield developments that leapfrog the existing urban front should be required to completely fund extensions to infrastructure that would otherwise be provided by the State Government. This includes extensions to major roads and utility networks.[31]

Respondents to the issues paper supported the provision for developers to be able to bring forward new developments if they were prepared to bear the associated costs and risk.

> **Water Corporation**
>
> [A]llowance of out of sequence developments provides developers the opportunity for risk taking and innovation, provided they assume the financial responsibilities for that risk.
>
> The Corporation supports the current arrangements for…out of sequence developments.
>
> (Water Corporation, p44)
>
> **WA Local Government Association**
>
> There are commercial incentives for developers to bring forward developments in some cases, so it is recommended that the developer pay the additional marginal cost of under-utilised infrastructure until such time that the new works achieves an agreed level of utilisation (ie via new connections). This is effectively an interest cost which would need to be underwritten. (WA Local Government Association, p6)
>
> **Aqwest**
>
> [The] Corporation's policy appears logical. (Aqwest, p2)
>
> Aqwest supports the Corporation's policies on frontal and out-of-sequence developments. (Aqwest, p3)

[31] Public Accounts Committee, *Inquiry into Developer Contributions for Costs Associated with Land Development*, Report No.8, 2004, p xxvi.

Housing Industry Association

[The Productivity Commission] noted that an advantage of upfront charging is its ability to deal with out-of-sequence development. (Housing Industry Association, p6)

The provision for developers to bring projects forward ahead of a development sequence by bearing the financial risk and costs is consistent with the general principles of developer contributions and a widely accepted practice across government agencies.

However, the correct identification of out of sequence developer charges relies on the existence of a clear and transparent development schedule against which the costs of bringing forward a project can be assessed. The developer charges for such projects are determined on a case-by-case basis, due to their unique circumstances, and involve negotiation between the Corporation and the developer to identify costs. The negotiation process is assisted by the requirement of the Urban Development Advisory Committee (UDAC), representing developers, to approve any out of sequence charges, which reduces the need for appeals. Developers also have the right to appeal to the Minister.

Draft Recommendation

25) The Corporation's developer contribution policy should continue to provide for developers to bring forward projects ahead of the development schedule if the developers are willing to bear any associated additional financial cost and risk.

4.5 Major Country Customers

4.5.1 Background

The Corporation has the power, under its legislation, to enter into special pricing agreements with customers who would normally be liable for statutory charges.[32]

One type of special pricing agreement is a Major Consumer Agreement, which applies to high volume customers in country areas.

For the purpose of setting headworks charges, the Corporation has two types of major customers: those with a peak demand of more than 49 kL per day and mining customers with a peak demand up to 49 kL per day.

Major Country Customers with Peak Demand Above 49 kL per Day

Major country customers (typically mining and industrial customers) with a peak day demand of more than 49 kL per day do not pay standard by-law charges or developer contributions. Instead, these major customers enter into agreements with the Corporation in which their charges are based on the costs of supplying water to that customer, including any costs of augmenting the system.

Major country customers pay:

[32] *Water Agencies (Powers) Act 1984*, Part III, Division 2, s.42 (Agreements for different liability).

- a capacity (or service availability) charge based on the customer's peak day demand and the cost of augmenting the water supply system to meet that demand; and
- a usage charge based on average scheme operating costs.

The standard major consumer agreement involves the customer paying an up-front headworks charge to secure their water entitlement for 45 years. However, the payment terms for the headworks charge are negotiated between the customer and the Corporation to take into account factors such as the size and financial risks of the project (such as the stranding of water supply assets in the event of commercial failure). Negotiations may include the timing of water offtakes (e.g. off-peak usage), the infrastructure required to support the required volumes, the service standards required and the payment arrangements. Customers using less than 100 kL per day may be charged on the basis of a recurring annual charge rather than a 45-year agreement.[33] In some cases, revenues from future customers who may use the assets built for a major customer are taken into account in setting the headworks charge. For example, where assets are built specifically for one customer, and circumstances change so that the water supply is no longer needed, it is possible for future customers who later make use of those assets to refund the original customer.

The capacity contribution for major customers is calculated using the "notional cost method", which is based on the estimated average unit cost of augmenting the system to meet a significant increase in demand. Notional costs are calculated separately for each scheme, and vary according to the average unit costs of augmenting capacity for each scheme.

Table 4.1 provides the indicative charges for various locations in WA. For example, customers in the East Pilbara region pay a unit cost of $3,328 per kL of peak day contracted demand while Kalgoorlie customers pay $17,559 per kL of peak day contracted demand.[34] Notional costs for each scheme are updated as required for the negotiation of major customer agreements.

[33] The negotiated terms of each agreement will depend on the particular risks of that project. For example, in some cases customers with a demand of less than 100 kL/day have been required to enter into a 45-year agreement.

[34] Note that the capacity charge also includes the 30 per cent National Tax Equivalent which the Corporation is required to pay to Government.

Table 4.1 Headworks Charges to Major Customers by Location (dollars of Dec 2007)

Location	Capital Cost per kL of peak day demand	Operating Cost per kL
Agricultural & Goldfields		
Cunderdin	$7,781	$0.57
Merredin	$8,906	$0.86
Southern Cross	$10,888	$1.10
Coolgardie	$16,326	$1.47
Kalgoorlie	$17,559	$1.58
Marvel Loch	$3,577	$1.34
Ora Banda	$28,629	$3.95
Mid West		
Geraldton	$2,609	$0.51
Walkaway	$786	$0.19
Dongara/Dension	$2,335	$0.63
Exmouth	$3,377	$1.28
Eradu/Mullewa	$5,536	$1.13
Great Southern		
Albany	$3,949	$0.78
Narrogin	$5,592	$0.41
Katanning	$5,784	$0.41
North West		
Dampier	$10,838	$0.97
Burrup Penninsula	$12,025	$0.97
Cape Lambert	$8,439	$0.97
East Pilbara	$3,328	$0.46

Source: Water Corporation

Major Country Customers with Peak Demand up to 49 kL per Day

Mining customers with a peak day demand of up to 49 kL per day pay a headworks charge (in addition to the charge of 182.7 c/kL currently specified in the mining by-laws). The headworks charge for mining customers is calculated as one Standard Headworks Contribution for each multiple of the standard peak day demand of a residential household (or Standard Residential Equivalent, which is 3 kL) that the customer requires.[35] It is a one-off payment, usually paid at the start of each supply agreement, which typically apply for a period of 15 years.

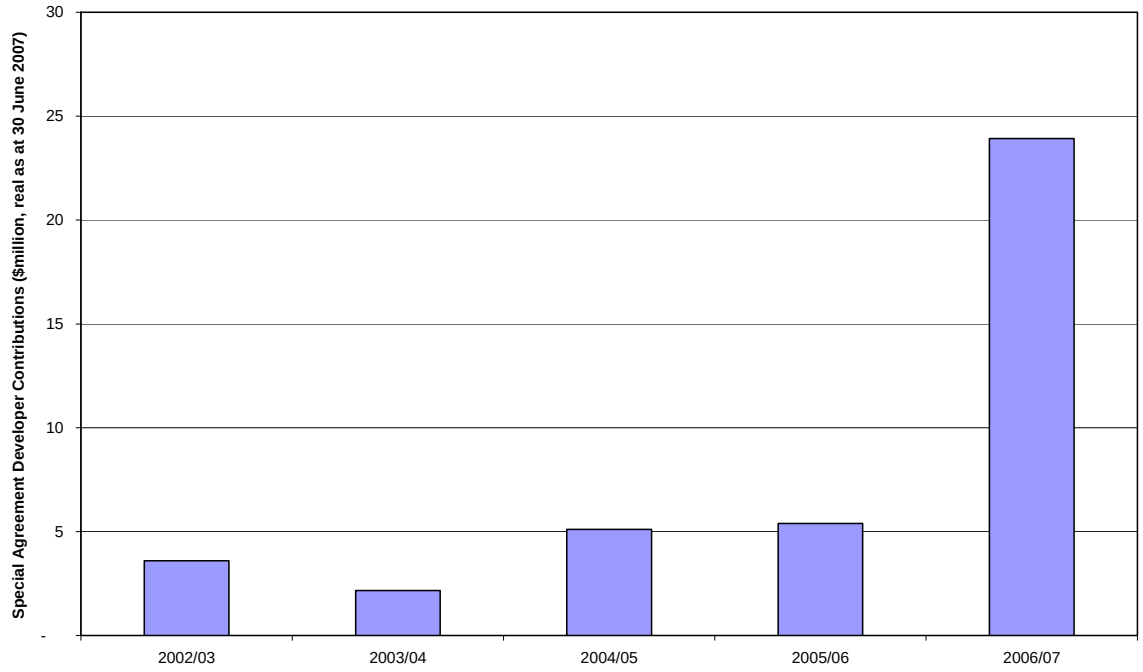
Mining customers are required to spread out their peak day requirement over a period of 24 hours, unlike non-mining customers, which can take their peak day requirement over a shorter period (e.g. 6 hours). Also, the special agreements for mining customers are for a period of 15 years, whereas for non-mining customers they are in perpetuity.

[35] For example, if a mining customer has a peak day demand of 45 kL, this is 15 times the peak day demand for a standard residential house (3 kL), so the headworks charge is 15 x $3,378 (the current SHC for water), giving a total headworks charge $50,670.

Headworks Revenue from Major Country Customers

Figure 4.1 shows the annual revenue received by the Corporation from their major customers special agreements, which as would be expected varies significantly from year to year depending on project developments. In 2006/07 headworks revenue from major country customers amounted to $24 million.

Figure 4.1 Headworks Revenue from Major Country Customers ($ million, Real as at 30 June 2007)



Source: Water Corporation with ERA analysis

4.5.2 Analysis

Major Customers with Peak Day Demand Above 49 kL

The Notional Cost Approach

A rationale behind a notional cost approach to charging for augmentations is that there is an equalisation of costs across new users regardless of the timing of their increase in demand on the system. If customers are charged on the basis of the actual cost of augmenting the system to accommodate their demand (as was the case before the introduction of the notional cost approach in the 1970s), customers who are developing projects at a time when the system is constrained and requires major investments in capacity would face very high costs. This could prohibit the development of the project, and also delay the augmentation of the system. Conversely, other customers developing at a time after infrastructure has been enhanced (paid for by pioneer customers) would face lower costs as their demands can be more easily accommodated. Thus, there are equity issues regarding who pays for the marginal cost of capacity expansions on the system.

A key question is whether the Notional Cost Model used to determine the headworks charges to major customers (above 49 kL per day) sufficiently reflects the incremental

costs of expanding the system in different locations to meet large increases in demand. The alternative to using a notional cost approach is to set charges based on the incremental costs of each project.

The Corporation submitted that the notional cost approach achieves good cost reflectivity for each scheme while avoiding the high administration costs of project-specific charges.

> The Water Corporation's charges for major mining and industrial customers are currently cost reflective (i.e. reflective of the incremental cost of supply).
>
> Because of the costs (labour and time intensive) in preparing notional schemes, location specific major consumer charges are currently limited to the G&AWS and generally major mining centres.
>
> The administrative cost of developing cost reflective charges can be substantial and must be considered in any move to toward a more cost-reflective pricing for state-wide major consumers.
>
> …
>
> The Corporation's approach is for high volume customers in country to pay the incremental costs. These charges are the minimum prices which can be charged without requiring a cross-subsidy from the Corporation's other customers or an increase in the CSO (Community Service Obligation).
>
> Lower prices than incremental costs would not comply with the objectives of the COAG (Council of Australian Governments) water reform.
>
> …
>
> [From] a public policy criteria charges to major consumers send efficient price signals which reflect variations in the costs of servicing different locations, maintains equity between similar customers and ensures fair, cost reflective charges from monopoly infrastructure and is applied consistently to all major customers in country areas. (Water Corporation, p45)
>
> [T]he notional cost methodology sends efficient price signals which reflect variations in the costs of servicing different locations, maintains equity between similar customers and ensures fair, cost reflective charges from monopoly infrastructure.
>
> (Water Corporation, p46)

The Authority notes that if the notional costs for each scheme can be shown to closely reflect their incremental expansion costs, then setting charges by the notional cost approach could provide an appropriate balance between cost reflectivity (charges vary by location) and administrative complexity. A further question is how the notional costs for each scheme are calculated and whether this methodology is transparent and well understood by stakeholders. The Authority would be interested in further feedback from major water customers regarding the cost reflectivity of the notional cost approach.

Sharing risks between the Corporation and customers

The setting of headworks charges for major customers is largely a way of allocating the risk of building infrastructure (which may potentially not be required) between the Corporation and the customer. The Corporation favours the upfront recovery of costs which reflect the long-term life of the infrastructure.

> Some mining customers may assess the financial feasibility of their mine over a project life that is not more than 20 years and therefore may consider a 45-year agreement not appropriate for them. These customers are seeking to avoid making a long term commitment that matches the life of the infrastructure providing the service.

> It should be noted that the customer has the opportunity to transfer or sell its water entitlement at any time to another major consumer at that location or to any other location on that scheme (subject to paying for any differential costs). (Water Corporation, p46)

The Chamber for Minerals and Energy, on the other hand, submitted that infrastructure costs should be recovered over the life of the asset, rather than upfront. Further, the Chamber argued that long-lived major infrastructure benefits the wider community and not just the major customers, and should be funded by government.

> CME believes that there is a place for consideration of the long-term nature of water infrastructure to be accommodated in negotiations of developer contributions.
>
> Industry is seeking to operate projects in many cases for more than 25 years, but ultimately will decommission and move on. The water and other infrastructure will remain, will continue to be available for use, and will be fully depreciated. This ongoing value to the State water network needs to be recognised in initial headworks negotiations.
>
> It is critical to acknowledge the long-term nature of this infrastructure. Given the timeframes involved, it is entirely appropriate that government fund the infrastructure and recover costs over similar timeframes. In the interests of State development and regional provision of services, water infrastructure should be State funded.
>
> (Chamber of Minerals and Energy, p2)

In line with the general principles set out in section 2, the Authority accepts that some costs, such as those associated with developing new sources that are shared between existing and new customers, should be recovered through tariffs rather than through headworks charges. However, the distribution development costs associated with a particular development or major customer should be reflected in headworks charges.

Comments were raised in submissions regarding the process for setting headworks charges for major customers, which involves a negotiation between the Corporation and the customer regarding issues such as the timing and quantity of water offtakes, the required development infrastructure and its costs, and the payment arrangements.

The Corporation noted the value of flexibility in the process for negotiating major customer charges:

> Major country customers (those requiring a service capacity in excess of 49 kL per day) currently have the ability to negotiate the terms of their charges directly with the Corporation. This helps ensure economic efficiency, appropriate allocation of cost and risk, as well as allowing for innovation and commercial opportunities.
>
> These benefits extend to the customers, the Corporation, other customers of the scheme and the state as a whole. The Corporation believes that this arrangement should continue to be made available for major customers. (Water Corporation, p19)

The Chamber for Minerals and Energy submitted that the timeframe for such negotiations can be lengthy and costly, and should be more clearly prescribed, and that there should be a mechanism for appeals.

> CME member companies have reported that when negotiating for headworks provision they would have been assisted by a defined timeframe for negotiations to take place.
>
> In the absence of such timeframes, and in a monopoly situation, companies are unable to seek alternate providers, nor any avenue of appeal or other process should negotiations reach an impasse or levied charges be unacceptably high.
>
> Furthermore, the longer negotiations are delayed, the more capital costs escalate…
>
> CME recommends that a process is established to ensure commercial negotiations are undertaken in a timely manner and that an independent authority should oversee the

> negotiation process to ensure timeliness, transparency and equitability. A mandated timeframe for the negotiation process may be appropriate.
>
> Some appeal mechanism to outside authority should also be in place, given the current monopoly position for these services.
>
> (Chamber of Minerals and Energy, pp1-2)

The Authority notes that under the current arrangements major customers do have the right to appeal any decisions on charges to the Minister. In electricity and gas, the legislation provides for the arbitration of contractual disputes by Western Australia's Gas Disputes Arbitrator.[36]

The Department of Water noted a lack of transparency about the charges to large customers.

> [T]here is a perceived lack of transparency in developer charges which are subject to commercial-in-confidence arrangements. (Department of Water, p7)

However, the Authority considers that the right to commercial confidentiality regarding headworks charges to large customers should be retained, and that it is more important that the methodology by which charges are calculated be transparent to stakeholders.

Overall, the Authority invites major customers to comment on whether they would prefer a more formal arrangement, perhaps based on Western Power's capital contribution policy, to be introduced to the water industry. As discussed in section 3.5.2, Western Power's capital contributions policy provides for rebates to be paid to major industrial or commercial customers for their capital contributions from new users who benefit from the capacity augmentation. In addition, if Western Power anticipates that future users will make use of a capacity augmentation at the time the capacity it being built, it will apportion the costs between the original customer and future users according to their expected utilisation of the capacity.

However, the Western Power approach is underpinned by the New Facilities Investment Test – capital contributions are used to fund those investments which do not pass this test, which is administered by the Authority. The application of a similar test in the case of major water customers would increase the administrative costs and complexity of major customer agreements.

Customers with Peak Day Demand Less than 49 kL

Is 49 kL an appropriate threshold?

There is a question as to whether the 49 kL per day threshold for the application of the major customer charging regime is appropriate. In other words, would there be benefits, in terms of increasing cost reflectivity, of extending the major customers policy to major customers with peak day demands of less than the 49 kL per day threshold? Customers with a peak day capacity of 49 kL or less pay headworks charges linked to the state-wide SHC. As the charges for major customers are calculated on a scheme-by-scheme basis, they are likely to more closely reflect average unit augmentation costs than are the charges to mining customers with lower water usage.

The Corporation submitted that customers taking less than 49 kL per day were small operations and not suited to treatment as major consumers:

[36] *Electricity Networks Access Code 2004*, chapter 10.4; and *Gas Pipelines Access (WA) Act 1998,* section 74.

> It is understood that the origin of the 49 kL per day threshold was in context of the G&AWS Main Conduit being able to supply this quantity without the need for major upgrades. However, the Major Consumers Policy does have discretion to deal with schemes (or pipeline extensions) where there is insufficient capacity to supply amounts less than 50 kL per day.
>
> Typically, mining customers requiring up to 49 kL per day are small operations with a short mine life. There is a question as to whether these small operations could sustain the normal major consumer charges. (Water Corporation, p45)

A relevant consideration is that the Government is currently implementing a phased reduction in subsidies to country commercial customers, following a recommendation by the Authority in its 2006 Inquiry on Country Water and Wastewater Pricing. As charges to country commercial customers become more cost reflective, the issue of the threshold between major and smaller commercial customers becomes less important.

4.5.3 Summary – Major Country Customers

Draft Findings

26) A notional cost approach to setting headworks charges for major customers on a scheme by scheme basis could achieve an appropriate balance between cost reflectivity and administrative complexity.

27) The charging method for major customers should be transparent (the way in which notional costs are calculated should be clearly understandable by stakeholders).

28) The Authority seeks further comments from major customers and other interested parties regarding the advantages and disadvantages of the Corporation's charging approaches to major customers compared to alternative approaches, such as that applied by Western Power to its major customers.

4.6 Temporary Connections

4.6.1 Background

Headworks charges apply to temporary services, in which water and/or wastewater services are provided for a short period (up to two years), such as for dust suppression in road works or construction, establishing vegetation in a new development, or services for a construction camp. For temporary services, developers make a payment prior to connection which covers the annualised headworks charges, by-law rates, connection and disconnection fees.

In general, the headworks charges for temporary connections are currently $262 per Single Residential Equivalent (SRE, which is defined as the volume of water for a typical household water supply – a 20mm connection at 20 litres per minute). The charge ($262) represents the annualised amount, over 50 years, of the Standard Headworks Charge. The number of SREs for a temporary connection depends on the volume of the offtake.

In certain circumstances, the charges for temporary connections are determined on a case-by-case basis. For example, in the case of a project in a remote town, it may not be possible for the local infrastructure to supply the large volumes of water required for the project, even for a short period. In these cases, flexibility is required to negotiate solutions, such as the supply of water at off-peak times and the provision of temporary storage facilities. In other cases, if there are significant assets, in addition to existing infrastructure, that are required to be built specifically to service a temporary connection, these are charged entirely to the temporary works project.

It is anticipated that the Minor Works Cost Sharing policy will apply to some temporary works, if the operating life of the assets installed is sufficiently long and they are used to service other properties.

4.6.2 Analysis

Submissions did not raise many issues regarding the Corporation's charging policy on temporary connections. The Urban Development Institute of Australia noted the value of flexibility in setting charges to reflect local conditions, and also suggested that alternative water supplies, other than scheme water, be considered for temporary works.

> Appropriate charges for a temporary connection depend on the capacity of the local scheme to cope with extra demand in the short term. It is UDIA's view that charges for temporary connections should be established on a case by case basis, and reflect the location and projected demand that the connection will have on the scheme.
>
> UDIA encourages consideration of the use of alternative water sources for temporary needs. It is concerning to the industry that potable water is still used for dust suppression. Temporary connections could be a significant way of decreasing reliance on scheme water and assistance from the Water Corporation in accessing these sources would be advantageous. (Urban Development Institute of Australia (WA), p3)

The Authority accepts that it is appropriate for the developer charges for temporary works, including the potential for rebates from other customers, to be set on a case by case basis. In cases where the development costs for a temporary connection are similar to the average distribution development costs for the scheme to which they are connecting, then it is appropriate to apply a headworks charged based on the annualised SHC over the period of the temporary connection. In this way, the headworks charge represents a partial contribution towards the cost of the infrastructure, reflecting the length of time the infrastructure is used to service the temporary connection.

However, if there are substantial development costs required for a temporary connection, such as for the construction of assets specific to that connection at costs greater than average distribution development costs, then these should be charged to the temporary connection. In these situations, the temporary works customer may opt for alternative supply options that are less costly (e.g. tanker supplies).

Draft Finding

29) If there are substantial development costs required for a temporary connection, such as for the construction of assets specific to that connection at costs greater than average distribution development costs, then these should be charged to the developer making use of the temporary connection. Otherwise, temporary connection charges should be linked to standard headworks charges. The Authority is intending to investigate further the cost-reflectivity of existing charges for temporary connections.

APPENDICES

Appendix 1 Terms of Reference

INQUIRY INTO DEVELOPERS CONTRIBUTIONS TO THE WATER CORPORATION

TERMS OF REFERENCE

I, ERIC RIPPER, Treasurer, pursuant to section 32(1) of the *Economic Regulation Authority Act 2003* (the ERA Act), request that the Economic Regulation Authority (the Authority) undertake an inquiry and make recommendations on the most appropriate charging mechanisms for the entire suite of the Water Corporation's developer charges.

In doing so the Authority is expected to consider and develop findings on:

1. the general principles underpinning developer charges for government businesses and the approaches to developer charges adopted by water regulators in other jurisdictions and by other utilities in Western Australia, as well as the work that is done on a national level as part of the National Water Initiative Agreement;

2. whether standard headworks contributions are an efficient and equitable funding mechanism for the provision of water, and wastewater and drainage infrastructure, or whether alternative pricing structures have the potential to encourage more efficient urban development through cost reflective price signals;

3. the ongoing use of special developer contribution area charges for development in areas having particular local conditions and local requirements;

4. the efficient and equitable recovery of the cost of minor works (connecting works) for frontal and out of sequence developments, having regard to the appropriate cost and risk sharing arrangements between different developers over time;

5. major customer charges for development of infrastructure for high volume customers in country areas; and

6. headworks contributions for temporary connections to Water Corporation services.

In regards to headworks contributions (item 2 above), the Authority is requested to make recommendations on the charging methodology and the most appropriate level of charges, with a view to implementation from July 2008, or as soon as possible thereafter.

For the remaining charges, which are applied on a case by case basis, the Authority is requested to provide recommendations on the appropriate methodology to use in calculating these charges.

The Authority is to have regard to:

- the contribution of developer charges as part of the overall efficient and equitable recovery of the total cost of the provision of water, wastewater and drainage services;

- the Government's uniform pricing policy; and

- the Government's social, economic and environmental policy objectives.

The Authority will release an issues paper as soon as possible after receiving the reference. The paper is to facilitate public consultation on the basis of invitations for written submissions from industry, government and all other stakeholder groups, including the general community.

A draft report is to be made available for further public consultation on the basis of invitations for written submissions.

A final report is to be completed by no later than 30 June 2008.

ERIC RIPPER MLA
DEPUTY PREMIER; TREASURER;
MINISTER FOR STATE DEVELOPMENT

Appendix 2 Summary of Approaches to Developer Charges

Introduction

Developer charges are charges associated with land developments (as distinct from charges to major industrial or commercial customers for meeting a significant increase in water usage).

New land developments impose increased demands on utility services, and charges to land developers are aimed at recovering, in part or in full, the costs associated with those demand increases. Developers may pass these charges on to the land purchasers. The charges may also be factored in to some extent in the price paid by developers to the original land owners.

The methods used to charge developers differ across utilities in the water industry and across the water, electricity and gas industries. This appendix summarises the current approaches to setting developer charges across WA and elsewhere in Australia. Detailed discussions on other approaches to developer charges can be found in Appendix 3 (Water Corporation) and Appendix 4 (Western Power, ESC in Victoria, IPART in NSW, and Ofwat in England and Wales).

The following summary separates developer charges according to the types of infrastructure required to service new developments. Developers pay charges which recover the cost, in full or in part, of:

- laying reticulation within the development;
- connecting the development to the existing network and upgrading the existing network if necessary; and
- developing major infrastructure (headworks).

Charging for the Cost of Laying Reticulation Within the Development

The general method applied by utilities in WA and elsewhere in Australia is for the developer to undertake new minor works such as laying the reticulation network.

- Water Corporation requires developers to extend minor mains at their own cost to the specification of the Water Corporation.
- Western Power requires developers to install the local reticulation assets within a development, including high and low voltage infrastructure, switchgear, transformers and streetlights.
- Busselton Water and Aqwest require the developer to undertake reticulation works, which must be completed to the standards and specifications set by the water utilities.

Alinta will install gas reticulation within the development at no cost to the developer where a new residential development abuts an existing gas distribution network, as long as:

- the lot frontages do not exceed 20 metres (this is reviewed annually);

- all necessary trenches are provided by the developer; and
- any boring/drilling under established roads that may be necessary to connect the new subdivision to the existing network is provided by the developer.

Alinta may require payments from some residential customers (e.g. existing strata-titled dwellings, new and existing high-rise residential developments). Costs associated with the installation of reticulated natural gas infrastructure in non-residential developments are charged to the developer in full.

Charging for the Cost of Connecting the Development to the Network and Upgrading the Network if Necessary

There are significant differences in the methods used by utilities in WA to charge for connecting a development to the network.

Water Corporation pays for extensions to water supply mains that are less than 30 metres per rateable property, do not exceed a projected cost of $4,000 per rateable property, and supply no more than 10 properties. In other circumstances, the Corporation contributes towards the cost of a mains extension up to ten times the expected annual service charge revenue from the rateable properties in the extension.

Aqwest discounts the developer's costs of a mains extension by up to $3,330 per property for each property that becomes rateable as a result of a mains extension, up to a maximum of $33,330 or the cost of the mains extension.

Busselton Water's policy is that developers pay all of the costs of the minimum infrastructure required to connect their development to the system, but Busselton Water will pay for any upgrades above the minimum deemed necessary by the utility for optimal system development. Any upgrades to the network prompted by new developments are funded from the pooled headworks charges paid by developers.

Western Power's policy is that the enhancements to the network outside the subdivision to connect the subdivision to the existing network are carried out by Western Power and fully funded by the developer. For residential subdivisions, the costs of high voltage infrastructure in excess of the requirements of the subdivision are spread between developers through the High Voltage (HV) Pool, introduced in 1999. The HV Pool collects funds from developers who pay below their share of high voltage electricity infrastructure and compensates developers who pay more than their share.[37] There is no pool mechanism for commercial and industrial subdivisions.

Alinta charges developers for connecting works for non-residential developments and for residential developments that do not abut the existing infrastructure.[38] Alinta provides up to 20 metres of gas service pipe (the line that runs from the gas main to the customer's meter) free of charge. As gas is not considered an essential service and competes with electricity, there is a commercial incentive for Alinta to connect properties at the

[37] Developers receive a HV Pool Payment calculated on the basis of the estimated material and installation cost of the physical network components of the development. The System Charge is the cost per kiloVolt Amp ($/kVA) required to fund HV Pool Payments to developers, including administration costs. Developers pay a HV Pool Charge which is calculated as the System Charge multiplied by the design load (in kVA) of the development.

[38] Where a new residential development does not abut an existing gas distribution network, a capital contribution towards the cost of construction of the required connecting infrastructure is required. This also applies to a situation where it is necessary to construct a pressure reducing station if the supply to the new development needs to be fed from a high-pressure gas main.

development stage when households are making choices about their energy source. Overlength services (more than 20 metres of pipe) attract a customer contribution. Alinta adopts an Economic Feasibility Test to calculate charges for developing the network.[39] The charges are determined by calculating the shortfall between the total project cost (i.e. the gas distribution network within the subdivision and associated network extensions) and the expected revenue from the project. The calculation generally results in the developer contributing fully towards the network extensions and Alinta fully funding the gas distribution network within the development.

In Victoria, the water utilities currently charge a flat fee for the cost of connecting to the network. The current flat fee ($500 per lot for water and $500 per lot for wastewater) is a transitional measure as the ESC is currently consulting interested parties on approaches that could be implemented that would allow for charges that are differentiated by location.

In NSW, developer charges are estimated on the basis of development servicing plans (DSPs). The boundaries for these plans can be decided by the water business and can include its entire jurisdiction. However, the charges are not just for the cost of connecting the development to the network and can also include charges for source infrastructure.

In England and Wales, the water regulator sets a uniform maximum per property charge for the costs of augmenting the local distribution network to accommodate the development. In addition, charges for the installation of public water mains or sewers that are requested by a developer are set by the regulator.

Charging for the Cost of Developing Major Infrastructure

Water Corporation, Aqwest and Busselton Water set headworks charges to recover the costs of major (i.e. non-reticulation) infrastructure.

Western Power does not apply headworks charges to developments in urban areas, but has recently developed a headworks policy for some edge-of-grid developments in regional areas.

The method of calculating charges for major infrastructure differs across the utilities.

- Water Corporation uses a current cost approach to calculate a per lot cost of current WA-wide headworks. The resulting cost is then adjusted to share the costs between developers (Water Corporation charges 40 per cent of the current cost per lot to developers) and the final water user. A uniform charge is applied State-wide. The principle being applied is that the cost of major infrastructure is recovered partly upfront (through developer contributions) and partly over time (through annual rates and consumption charges). In addition, the Water Corporation has special developer contribution areas (such as for the North East Corridor and Eagle Bay).
- Busselton Water and Aqwest use a current cost approach to calculate a per lot cost of current headworks, and then adjust this figure to equate revenue for headworks to expected expenditure. The principle being applied is that new customers entirely fund the major infrastructure.
- Western Power has introduced a distribution headworks policy for major enhancements in its high voltage rural distribution system that are more than 25km from its zone substations. This is because edge-of-grid developments in rural

[39] This test is consistent with section 8.16 of the *National Third Party Access Code for Natural Gas Pipeline Systems.*

areas often require substantial, and potentially prohibitive, capital contributions.[40] The headworks charge spread the costs of such enhancements across the developers connecting to a scheme and apply to residential and commercial developments. The headworks charges are based on the capacity of the new development, its impact on load, the distance from the zone substation, and the voltage of the distribution feeder to which it is connected. Headworks charges are reduced by taking into account expected revenue from network access charges arising from that connection for up to 15 years in the future. The State Government has also determined a rebate to apply to locations with the highest headworks charges.[41]

- Alinta does not charge headworks charges for major infrastructure, as source costs and the costs of major transmission pipeline developments are funded by gas producers and transmission pipeline owners.

In New South Wales, the charging method approved by IPART allows for the inclusion of some of the costs of source assets (owned by the Sydney Catchment Authority) and other existing infrastructure, if the use of these assets can be directly attributed to new developments.

The Essential Services Commission of Victoria has argued that infrastructure costs that are common to all parts of the network, such as headworks, should not be recovered from only one group of customers such as developers.

South Australia Water calculates headworks charges in a similar manner to the Water Corporation, as a uniform state-wide charge.

In England and Wales, there are no headworks charges to recover the costs of developing new sources and increasing treatment facilities, which are recovered through tariffs. However, there is a uniform infrastructure charge (currently around £260 per service) paid by developers to cover incurred by water and sewerage in enhancing the network of mains and sewers to meet general demand growth

[40] Under the *Electricity Network Access Code 2004,* major augmentations to Western Power's network which do not pass the New Facilities Investment Test (NFIT) require up-front capital contributions from developers. The New Facilities Investment Test (s.6.52 of the Code) requires that the costs of the New Facility Investment be minimised and at least pays for itself, through future revenues associated with the investment. Investments which pass the NFIT are rolled into the capital base, so that the costs are recovered through tariffs. The amount of the capital contribution is determined by the total cost of the new facility *minus* the costs of the new facility that are approved under the NFIT. Most developments in urban centres and regional towns pass the NFIT as charges are recovered through tariffs. A description and discussion of the NFIT can be found in Appendix 6.

[41] For residential subdivisions, headworks charges above $1000/kVA will be subsidised at a rate of 50 per cent, up to a cap of $2000/kVA (around $11,000 per block including GST). For commercial and light industrial subdivisions, headworks charges above $500/kVA will be subsidised at a rate of 67 per cent, up to a cap of $1000/kVA.

Appendix 3 Water Corporation's Headworks Charges

Background

The Water Corporation charges a State-wide Standard Headworks Contribution (**SHC**), which is based on recovering 40 per cent of the average State-wide cost of providing headworks infrastructure to a typical residence on an average residential lot. The remaining 60 per cent of headworks costs are recovered through annual usage and fixed charges and Community Service Obligation payments from Government where applicable.

The Corporation has summarised the history of headworks charges:

> Headworks Contributions were first introduced in the metropolitan area as a method of funding rapid urban development in 1978 and standardised in 1981. Prior to 1978, major infrastructure capital expenditure was funded solely through borrowings, general revenue and some infrastructure contribution by developers and major mining companies in the country. However, with government restrictions on borrowings and limitations on increases to rates and charges, a new method for funding works was sought.[42]

The Corporation has undertaken triennial reviews of the SHC since 1991. During each triennial review, the Corporation is guided by the Urban Development Advisory Committee (UDAC), which reports to the Corporation's Board.[43] The UDAC was established in 1994 to provide advice on policy development and process improvement. The following table, provided by the Corporation, summarises the changes that have been made to Standard Headworks Contributions since 1968.

Table A3.1 History of Standard Headworks Contributions

Year	Change	Reason / Effect
1968	Introduced on an individual assessment basis	
1978	Uniform contribution set for all developments.	
1981	Major agreement with Industry. Standard Headworks Contribution Policy introduced.	
1981	New Building Stage Policy introduced – Habitable Rooms.	
1985	Amalgamation of Metropolitan Water Association and Public Works Department into Water Authority of WA	
1991	1st Triennial Review. Cabinet submission approved on 5 June: Standard Headworks in country and metro.	33% recovery in July 1991 from 22% 40% recovery in July 1992

[42] Water Corporation (2 August 2007), *Water Corporation Land Development Charges*.

[43] The membership of the UDAC includes the Department of Industry and Resources, Consulting Surveyors Western Australia (Inc), Association of Consulting Engineers Australia, Civil Contractors Federation, Landcorp, Housing Industry Association, Urban Development Institute of Australia, Master Builders Association, Western Australian Local Government Association and Water Corporation.

Year	Change	Reason / Effect
		Small lot concessions <600m^2
1992	Building Stage Headworks now also allowed to be deferred, as subdivision by bond.	
1994	2nd Triennial Review.	
1996	30th June – Deferral of subdivision Headworks by legislation.	
1996	State Government Initiative Developers were given the option of deferring their headworks contributions for a maximum of 12 months, or until the lot was sold or connected to water or sewer.	Intended to be a cost neutral revenue exercise for the Water Corporation and scheduled for review in 1999.
1997	1st change from monthly to quarterly increment.	Industry requests, to simplify administration.
1998	3rd Triennial Review Drainage Review of 1998	Saw a small reduction in the contribution amounts for water and wastewater and a small increase in drainage. Use of Metropolitan Regional Scheme to determine land use and drainage parameters.
1998	Use of the Water Corporation's Capital Cost Index (CCI) through the Urban Development Advisory Committee (UDAC).	Industry agreement to escalate the SHC.
2000	Introduction of GST	No impact on Headworks Contributions, but some confusion regarding works handed over.
2001	4th Triennial Review.	Introduced multipliers for Water, Sewerage & Drainage Specified Services introduced.
2001	SHC Allocation Review.	Introduced a metered approach based on lot size.
2002	Changes Introduced which saw all residential properties to have headworks assessed based on criteria for class 1 Buildings Code of Australia. Ancillary accommodation no longer exempt	An indexation adjustment of the SHC's was made after liaison with ACCC.
2004	5th Triennial Review.	Impact of water restrictions. Saw the use of adjusted Domestic Water Use Study (2003) wastewater figures for Standard Residential Equivalents (SREs) and the use of Metropolitan Regional Scheme and GRANGE to determine lot use levels to derive SREs.[44]

[44] GRANGE is Water Corporation's network system for recording all external customer contact details.

Year	Change	Reason / Effect
2005	CCI make up.	Adjusted to suit Australian Bureau of Statistics (ABS) available data.
2006	In March 2006 a simplified Headworks Contributions Policy was introduced.	To replace the reliance on land use and lot size with a standard contribution at subdivision stage and a contribution based upon meter size at building stage irrespective of lot size. The policy was intended to tie in Headworks contributions more closely to the physical capacity of the services actually provided.
2007	In February 2007 a new index calculation was agreed.	Based on further changes in the composition of ABS indices which comprise the CCI.

Source: Water Corporation

Current Charging Method

Standard Headworks Contribution (SHC)

The Standard Headworks Contribution (**SHC**) is calculated as:

- the total Modern Equivalent Asset value of major infrastructure
- *divided by* the number of Single Residential Equivalents (**SRE)**, and
- *multiplied by* 40 per cent (which is the proportion of headworks costs recovered through the headworks charge).

The SRE is defined as the basic annual demand for water, wastewater or drainage services for a single residence in a typical urban location, with the method of calculation agreed with UDAC.

- For water services, the SRE is defined as the average water demand for a single house receiving a standard (20 mm meter) supply. Previously it was calculated by dividing the three-year average water consumption for all houses with consumption greater than 25 kL and less than 2,000 kL, by the three-year average of the number of houses.[45] In 2004, the SRE was assessed at 343 kL per annum. Table
- For wastewater services, the SRE is similarly based on the meter based service. Previously, data from the Domestic Water Use Study estimated in-house water flow at 165 kL per single residential household per year, assuming an occupancy rate of 3.35 people per household.[46] The total number of SREs for the calculation

[45] "House" is defined as in the GRANGE database, as a single dwelling on a single parcel of land.

[46] Loh, M. and Coghlan, P. (March 2003), *Domestic Water Use Study: In Perth, Western Australia, 1998-2001.*

of the wastewater headworks contribution was estimated as the three-year average annual inflow to wastewater treatment plants, plus a 5.64 per cent allowance for infiltration, divided by the SRE of 165 kL per annum.

- For drainage, the SRE is defined as the drainage demand for a single residence on a lot of 450 m^2 to less than 700 m^2 (SRE factor of 1). For commercial and residential land, lots are assigned an SRE factor (greater or less than 1) depending on land use and lot size (see Table A3.2 below). For other areas (commercial, public open space, schools, shopping centres), SRE factors are assigned per hectare. The total number of SREs for the calculation of the drainage headworks contribution is estimated by multiplying the number of residential and commercial lots by their SRE factors, and total area of each type of other land uses by their SRE factors.

Table A3.2 Examples of Standard Residential Equivalent (SRE) Factors for Drainage for Different Land Uses

	SRE Factor (per Lot)			
Land Use Category	**<200 sqm**	**450 to <700 sqm**	**5,000 to <10,000 sqm**	**>=10,000 sqm**
Commercial	0.70	2.60	17.10	-
Residential	0.66	1.00	1.85	-
	SRE Factor (per Hectare)			
Land Use Category	**<200 sqm**	**450 to <700 sqm**	**5,000 to <10,000 sqm**	**>=10,000 sqm**
Commercial	-	-	-	23.30
Public Open Space	1.00	1.00	1.00	-
Schools	8.00	8.00	8.00	8.00
Shopping Centres	40.00	40.00	40.00	40.00

Source: Water Corporation

Current SHCs (for the period 1 July to 30 September 2007) are $3,227 per SRE for water services; $1,490 per SRE for wastewater services; and $420 per SRE for drainage services.

The total headworks charge for a new development is then calculated as the SHC multiplied by the number of SREs in that development.

Headworks charges are payable at different stages of development. At the subdivision stage, each additional lot incurs one SHC.[47] At the building stage, customers whose demand is greater than that of the standard level of service (one SRE) are charged additional contributions.

Under some circumstances, developers may be allowed to defer payment of headworks contributions. To be eligible, lots must not be connected to water or sewerage services, have no habitable buildings, be intended for residential purposes and be less than 2,000 m^2. The developer charges may be deferred until the land is sold, becomes habitable, is connected to the water or sewerage services, or one year after the approval

[47] Additional charges may apply in areas deemed as Special Developer Contribution Areas (see following discussion) or if the development is in a high cost country area and does not receive a CSO.

of the subdivision. Developers meet the administrative costs of the deferral, provide a financial guarantee to secure the debt, and pay interest over the period of deferral.

Special Developer Contribution Areas

Some areas have infrastructure costs which are considerably higher than the average headworks costs. This may be due to local conditions, remote conditions and lack of existing infrastructure, or the need to bring forward development ahead of existing development plans ("out of sequence" development). These areas are known as Special Developer Contribution Areas, and attract headworks charges which are different to the SHC and are set case by case to recover the infrastructure costs associated with those areas, typically in agreement with the major developers. Two examples are Kalamunda and the North East Corridor of the Perth Metropolitan area.[48]

- In Kalamunda, because of the high costs of sewerage infrastructure in the area, customers pay a contribution, in addition to the SHC, based on the average cost of providing wastewater reticulation in the area. The contribution increases with the number of subdivisions or residential buildings per lot, and the number of major fixtures for commercial buildings.[49]
- The residential development of the North-East Corridor (including Ellenbrook, Upper Swan, Henley Brook) in the 1980s involved high costs due to its remoteness from existing infrastructure, so special developer contributions for water, wastewater and drainage apply at the subdivision stage.[50]

Temporary Services

Headworks contributions also apply to temporary services, in which water and/or wastewater services are provided for a short period (up to two years), such as for dust suppression in road works or construction, establishing vegetation in a new development, or services for a construction camp. In this case, developers make a payment prior to connection which covers the annualised headworks contribution, by-law rates, connection and disconnection fees.

Rural Headworks Contributions

Special provisions apply in the case of headworks charges for rural subdivisions for residential purposes (defined as lots greater than one hectare and less than four hectares). Developer charges in this case are determined using a net present value approach, as set out in the Corporation's policies and procedures for land servicing:

> The financial analysis should be undertaken in line with the Corporation's agreed methods of analysing new business on a discounted cash flow basis.
>
> The Net Present Value (NPV) of the incoming and outgoing cash flows should exactly balance, with the subdivider's financial contribution being the variable.

[48] Other Special Developer Contribution Areas exist in Allanson, Australind, Balcatta, Bedfordale, Boddington, Dalyellup, Dampier, Denham, Eagle Bay, Greenough, Margaret River, Malaga, Morley (Galleria), Mount Helena, Mundijong, Paraburdoo, Port Kennedy, Thomsons Lake, Tom Price, South Busselton, Moora and Yallingup.

[49] The additional contribution for a single dwelling in Kalamunda is currently $11,415 (1 July to 30 September 2007).

[50] The special developer contribution for the North East Corridor for the payment period 1 July to 30 September 2007 is $4,915 per SRE for water, $3,436 per SRE for wastewater and $809 per SRE for drainage.

> The outgoing cash flow will include initial capital expenditure and all future replacements, cost of operating the scheme, inclusive of overheads. In addition, for situations where the proposed scheme will connect to an existing scheme, the expenditure for the provision of notional headworks. Notional headworks expenditure considers the "off site" headworks already placed and all future augmentation and replacement thereof.

The Corporation has indicated that as developers pay for the reticulation, there is no additional cost in supplying large lots. This charging policy has been maintained as a matter of government policy.

Appendix 4 Other Approaches to Developer Charges

Western Power Distribution Headworks Scheme

Western Power is currently finalising its Distribution Headworks Scheme for edge-of-grid developments in regional areas of the South West Interconnected System (SWIS). High growth in some of these regional areas is prompting the need for substantial infrastructure investment to provide for growing electricity demand.

Distribution headworks are defined as major investments in the high voltage three-phase distribution system. This may include increasing the capacity of high voltage power lines, or the addition of new high voltage feeders or local generators. However, they do not include investments in the transmission system (which are recovered through tariffs) or in local reticulation assets (which are paid for by the connecting customers).

Under the current arrangements, distribution headworks are funded by customer contributions, which are set to recover the costs of new investments, or parts of new investments, which do not meet the requirements of the New Facilities Investment Test under the WA Electricity Code (see Appendix 7 for a description and discussion of this test). However, in regional areas which have a high need for investment, but a low population density, customer contributions calculated under the current approach can be very high, and could in some cases inhibit development.

The objective of the Distribution Headworks Scheme is to spread the cost of distribution network enhancements across new customers. The scheme does not apply to the Central Business District, the Perth metropolitan area or the Goldfields region, as tariffs in these areas generally cover the costs of network investments. In addition, the scheme only applies to customers that are more than 25 km from Western Power zone substation, as most substations are in regional centres, and the number of customers within this radius generates sufficient tariff revenues to cover costs of network expansions.

Under the proposed scheme, the headworks charge is calculated on the basis of:

- the electrical capacity which the new user seeks (in kilovolt amps);
- the diversity of the customer's load (their level of demand at times of peak system demand);
- the customer's distance from the zone substation; and
- the voltage of the distribution feeder to which the customers connects (either 22 kilovolts or 33 kilovolts).

The distribution headworks charges are offset by estimated revenues which are anticipated as the result of a connection. Revenue offsets are determined on a case-by-case basis for commercial customers, and pre-determined on the basis of standard assumptions for rural and commercial subdivisions.

Government subsidies will apply for the highest cost customers. For residential subdivisions, headworks charges above $1000/kVA will be subsidised at a rate of 50 per cent, up to a cap of $2000/kVA (around $11,000 per block including GST). For commercial and light industrial subdivisions, headworks charges above $500/kVA will be subsidised at a rate of 67 per cent, up to a cap of $1000/kVA.

Independent Pricing and Regulatory Tribunal (IPART)

The approach currently used by metropolitan water agencies in NSW to set developer charges was established by IPART in September 2000.[51] IPART amended the methodology in 2006 to take into account the pricing of recycled water services.[52]

IPART is currently reviewing its developer charges methodology.[53] However, this is primarily a review of how the individual parameters used to determine developer charges, are calculated, rather than a wholescale review of the approach to developer charges.

Water agencies are required to develop and publish Development Servicing Plans (DSPs), which includes information on:[54]

- the size of the DSP area;
- land use planning;
- the services to be provided over the development period;
- estimated future capital and operating costs;
- the expected timing of works and expenditures;
- service standards and design parameters for assets
- demographic and growth assumptions;
- asset information, including asset capacity; and
- the developer charge and how it is calculated.

Water agencies are required to review their DSPs every five years (or as required by IPART), and must publish their DSPs after review for at least 30 days before implementing the charges. Developers can query the charges during the exhibition period and can go to independent arbitration for any disputes that can not be resolved with the water agency.

Developer charges are calculated according to a Net Present Value (NPV) approach established by IPART. The NPV methodology calculates the developer charge per standard lot ("equivalent tenement") as:

- the present value of the cost of existing and future assets used to serve the DSP area

  minus

- the present value of future net operating profits (or losses) expected from providing the services to the DSP area over the forecast period;

  divided by

- the present value of the number of equivalent tenements in the DSP area.

The forecast period is 30 years from the date of review of the developer charge.

In calculating capital costs, the methodology includes existing and future assets which are needed to provide the required services at a minimum cost. Developer charges can

[51] IPART (September 2000), *Sydney Water Corporation, Hunter Water Corporation, Gosford City Council, Wyong Shire Council – Developer Charges from 1 October 2000*.

[52] IPART (September 2006), *Pricing Arrangements for Recycled Water and Sewer Mining: Sydney Water Corporation, Hunter Water Corporation, Gosford City Council, Wyong Shire Council.*

[53] IPART(November 2007), *Review of Developer Charges for Metropolitan Water Agencies – Issues Paper*.

[54] IPART (November 2007), op.cit., p4.

therefore include the costs of headworks (such as dams, water and sewerage treatment plants and ocean outfalls), as well as pumping stations, mains and reservoirs, to the extent that these assets, or parts of these assets, can be attributed to the provision of services within a DSP. Assets which are excluded from developer charges are:[55]

- any assets provided by developers free of charge to the water agency;
- the capacity of an asset that was made available due to changes in land use;
- assets built prior to 1970;
- parts of assets not directly attributable to growth, such as amendments to environmental legislation; and
- parts of assets that are deemed to be unreasonably over-sized having regard to the demographic statistics available at the time.

In cases where assets provide services to more than one DSP, water agencies are required to apportion those assets between the DSPs.

Water agencies are required to value future assets at efficient market costs, and existing assets at Modern Engineering Equivalent Replacement Asset (MEERA) values.

Net operating profits (or losses) are calculated as the future expected revenues from new customers in the DSP area minus the future expected annual operating, maintenance and administration costs of providing the services to those customers; divided by the present value of the number of equivalent tenements.

One of the key issues being considered in the ongoing review by IPART of developer charges is to what extent headworks costs should be apportioned to developers. The IPART methodology prescribes that only the costs of headworks associated with growth be recovered through developer charges. However, with recent droughts and an expectation of further droughts and climate change in New South Wales, it is likely that water utilities will need to substantially augment their supply capacity in the near future (e.g. a desalination plant by Sydney Water, and a new dam in the Hunter Water area). It could be argued that such investments are required to provide security for existing customers and not only to provide additional capacity to meet growth. IPART is therefore consulting on the drivers for the construction of such projects, and the extent to which these costs should be recovered from developers or through tariffs to existing customers.

Essential Services Commission of Victoria (ESC)

The ESC (Victoria) approach to setting developer charges (referred to as “new customer contributions”) was established as part of the 2005 ESC price review of water and sewerage services provided by Victoria’s 20 metropolitan and regional water businesses.[56] The Commission has commenced its next review, with the water businesses having submitted their water plans for the five year period from July 2008. The approach to new customer contributions is being assessed as part of this price review.

Under the current arrangements, new customers pay:

[55] IPART (November 2007), op.cit., p40.

[56] Essential Services Commission (June 2005), *Water Price Review: Metropolitan and Regional Businesses’ Water Plans 2005-06 to 2007-08 – Final Decision*.

- the costs of reticulation assets required to service their property or development;[57] ***and***
- a charge of up to $500 per lot for water services and $500 per lot for sewerage services; ***or***
- a charge above $500 per lot per service to reflect the costs associated with bringing forward ahead of schedule the construction of shared distribution assets to service a new development.

Shared distribution assets are defined as those infrastructure assets that are required to deliver the water or wastewater services to more than one development, but ***do not include***:

- reticulation assets; and
- headworks and tailworks.[58]

In seeking to levy a charge greater than the scheduled maximum charge, water businesses must apply to the Commission and provide details of the basis for the higher charge, which is calculated according to the formula:

$NCC = C – C/(1+r)^n$, where

- NCC is the New Customer Contribution;
- C is the cost of providing the shared distribution assets;
- r is the pre-tax Weighted Average Cost of Capital; and
- n is the number of years, to a maximum of 25 years, by which the provision of the shared distribution assets have been brought forward.

The ESC approach to developer charges differs from that of IPART in that:

- costs are forward-looking (based on the future costs of providing services) and exclude sunk costs (of existing assets);
- developer charges do not cover costs associated with major infrastructure such as headworks or tailworks;
- water businesses are responsible for shared assets (i.e. assets shared by more than one development. However,
- water businesses can charge up to a scheduled maximum amount per lot per service as part-funding towards the cost of shared distribution assets, rather than calculating charges on the basis of the net present value of assets required to provide services.

[57] Reticulation assets are defined as infrastructure explicitly provided to service one development. This includes water mains of 150mm or less in diameter and sewerage mains of 225mm or less in diameter and associated assets such as water storage tanks, local treatment and disinfection plants, pumping stations, rising mains, and sewerage flow control facilities.

[58] Headworks and tailworks are defined as “infrastructure assets owned by a water businesses or water and sewerage wholesaler and may include major water supply reservoirs, raw water harvesting systems, raw water purification/filtration plants, clear water storages, major sewerage transfer pump stations and major wastewater purification plants and disposal systems”. (ESC, August 2006, *Water Industry New Customer Contributions Guideline*).

Prior to the 2005 price review, water businesses in Victoria typically set new customer contributions on the basis of the methodology used by IPART (i.e. new customer contributions were set to cover the shortfall between the net present value of capital costs attributed to the new customers, and the net present value of operating profits arising from the new connection). However, the ESC noted a range of problems with the approach.

- **Sunk costs.** Many Victorian businesses included sunk costs in their calculation of new customer contributions. The ESC maintains that sunk costs (associated with existing assets) should be excluded, as they do not signal the future costs of servicing a new development. Since location decisions can not alter past investment decisions, new customers should not be responsible for those costs. Indeed, including sunk costs could even swamp efficient locational price signals if the costs of existing assets are high. Further, the ESC notes that efficient investments (including building spare capacity if this is considered prudent to provide for growth) are added to the asset base through the regulatory process, with the costs recovered through tariffs, so there is no need for funding from new customer contributions.
- **Shared costs.** Many businesses' new customer contributions also included shared costs (i.e. infrastructure investments such as transportation, treatment and storage facilities which service existing users as well as the new customers). The ESC's position is that shared costs should not be borne by new customers alone, on the grounds that in interconnected systems a demand increase (or decrease) by any user on the system can prompt (or avoid) the need for these investments.
- **Headworks and tailworks.** As in the case of shared costs, major infrastructure investments such as headworks, tailworks or major treatment plants are needed to meet all demands on the system, not just new users, so the costs should be attributed to all users. Further, setting usage charges on the basis of long run marginal cost means that the costs of developing new water sources are already reflected in tariffs.
- **Complexity.** The detailed assumptions and judgements required to implement an incremental cost approach to calculate customer contributions resulted in a wide range of approaches between businesses.
- **Price signalling.** The level of customer contributions was likely to provide a less important signal to customers regarding the costs of service provision than tariffs, set on the basis of the long run marginal costs of consumption. Further, the ESC noted that for many of the water businesses, any location signals provided by their new customer contribution charges were distorted due to the inclusion of sunk costs and shared costs, or due to the common practice of averaging customer contributions across catchment areas.

In view of these difficulties with an incremental approach to new customer contributions, the ESC implemented the notional flat fee of up to $500 per lot per service (water or wastewater) as a partial contribution by new customers towards the cost of shared distribution assets. The fee was introduced as an optional transitional measure, until such time as a long-term optimal design for customer contributions (in which the benefits of implementation outweighed the costs) could be developed. However, in its consultation on developer charges as part of the current price review, the ESC has given no indication of moving away from the flat fee approach.[59] Instead, the ESC has indicated only that it:

[59] ESC (December 2006), *2008 Water Price Review Consultation Paper: Framework and Approach;* ESC (March 2007), *2008 Water Price Review: Guidance Paper*; ESC (December 2007), *2008 Water Price Review: Water Plans – Issues Paper*.

- is considering increasing the cap on new customer contributions to $1,000 per lot per service, to be accompanied by a principle that contributions should reflect the costs of shared infrastructure associated with the development; [60]
- sees merit in the proposal by the Victorian Water Industry Association (VWIA) of levying different new customer contributions depending on the water use efficiency of new developments. The VWIA propose that there be three levels of contributions:
- $550 per lot per service (water, sewerage and dual pipe recycled water, so up to $1,650 per lot) for developments which will have a low impact on future water demand (typically with lot areas less than 450 square metres);
- $1,100 per lot per service (water, sewerage and dual pipe recycled water, so up to $3,300 per lot) for developments where further investment is needed in the next six years (typically greenfield urban developments with lot areas between 450 and 1,350 square metres);
- $2,200 per lot per service (water, sewerage and dual pipe recycled water, so up to $6,600 per lot) for developments that will create a high demand for water resources (typically greenfield urban developments with lot areas greater than 1,350 square metres).

The Commission indicated that most businesses have shown support in their Water Plans for a higher cap on customer contributions, and for the VWIA proposal of a framework of contributions to reflect water use efficiency in new developments. The Commission requires that businesses applying the VWIA model clearly indicate how different levels of charges are calculated.

England and Wales

In England and Wales, water and sewerage companies who provide new connections to mains or sewers are entitled to recover from the customers requiring the connection the costs of:

- laying a service pipe or drain and service connections to the water main or sewer;
- laying a new water main or sewer (extensions to the system required to facilitate a new connection); and
- upgrading the local distribution or sewerage network, including local service reservoirs or local pumping stations.[61]

The costs of developing resources (including bulk mains, treatment plants or increasing the capacity of sewage treatment works) are recovered through tariffs.

New water mains or sewers may be laid by the water and sewerage company, at the request of the customer, developer or local authority, or by developers, who then hand the assets over to the water and sewerage company (this is known as “self lay”).

Where new mains or sewers are laid by the company, the company may charge:

[60] The Commission was concerned that the low number of applications by water businesses to apply new customer charges above the cap on contributions (27 since the pricing arrangements were implemented) suggested that the administrative and regulatory costs of such applications could outweigh the benefits.

[61] Ofwat (December 2007), “New connections to the main or sewer”, and Ofwat (May 2004), “Guidance on financial arrangements for self-lay and requisitioning”, available on www.ofwat.gov.uk.

- a connection charge, covering the direct costs of any connection works carried out by the company (e.g. new service pipes, meters, valves);
- the costs reasonably incurred in providing the new mains or sewers, including network reinforcement (piping and pumping), and may also include a proportion of the cost of existing mains or sewers that were over-sized in anticipation of future demand growth; and
- an infrastructure (or network) charge, covering the costs incurred by companies in enhancing the network of mains and sewers to meet general demand growth. The industry regulator, Ofwat, set a standard infrastructure charge of £239 per service in 2004, which is indexed to inflation. The infrastructure charge is not intended to finance the costs of developing new sources and increasing treatment capacity, which are recovered through tariffs.

Where new mains or sewers are installed by developers:

- the developers pay the company:
- the costs of any works carried out by the water company (which may include direct connection costs and network reinforcement costs); and
- an infrastructure charge (as above);
- the company pays the developer an asset payment reflecting the revenue that will be received from the newly connected properties.

Appendix 5 Treatment of Developer Contributions for Tax and Dividend Purposes

The current treatment of developer contributions has been designed by the Corporation and Government to have a minimal impact on dividend and tax equivalent payments (the mechanism by which the tax obligations of State-owned businesses are paid to the State Government rather than the Federal Government).

- Gifted assets are treated as revenue in the year in which they are received. Net profit is consequently increased. However, the Government's policy for dividends from the Water Corporation bases the dividend payment on net profit exclusive of revenue from gifted assets. In other words, gifted assets do not influence dividend payments.
- Cash received from developers also increases the Water Corporation's net profit. The Government currently requires the Water Corporation to pay 85 per cent of its net profit in the form of dividends. This figure was based on an assumption that cash revenue from developers would average 15 per cent of net profit. In other words, the Water Corporation would on average retain the cash received from developers and use it to fund its capital expenditure programme or other operations. However, if developer contributions are higher than 15 per cent of net profit, not all of the cash received from developers would be retained by the Water Corporation.
- Tax equivalent payments are 30 per cent of net profit. In any particular year, tax payments to the State Government are higher as a result of developer contributions. However, over the life of the assets there is no net tax impact. This is because the assets constructed as a result of development activity are depreciated over time and depreciation is a tax offset.

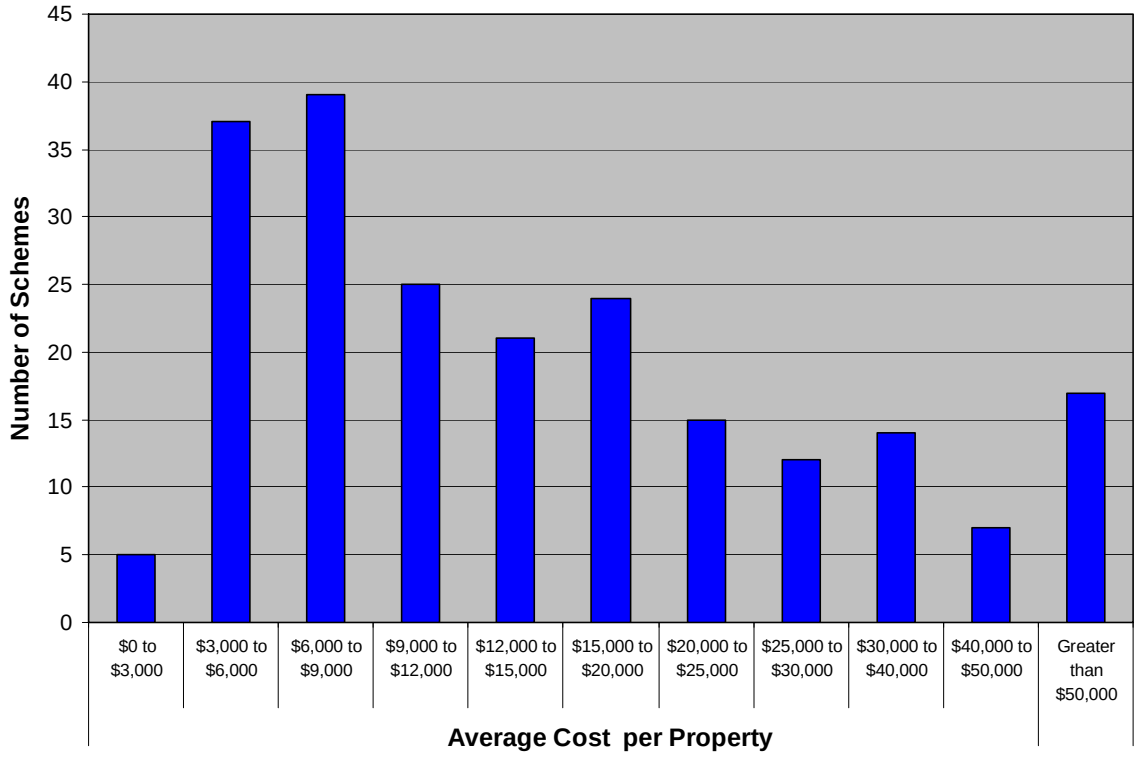
Appendix 6 Country Water and Wastewater Distribution Costs

The Corporation have provided estimates of the spread water and wastewater distribution costs in country schemes. It is important to note that estimates of distribution costs are highly sensitive to assumptions on how assets are classified (e.g. reticulation vs distribution vs transmission or source). This can be particularly difficult in some country towns where asset sizes are relatively small, and the distinction between source and distribution assets is less clear cut.

Country Water Distribution Costs

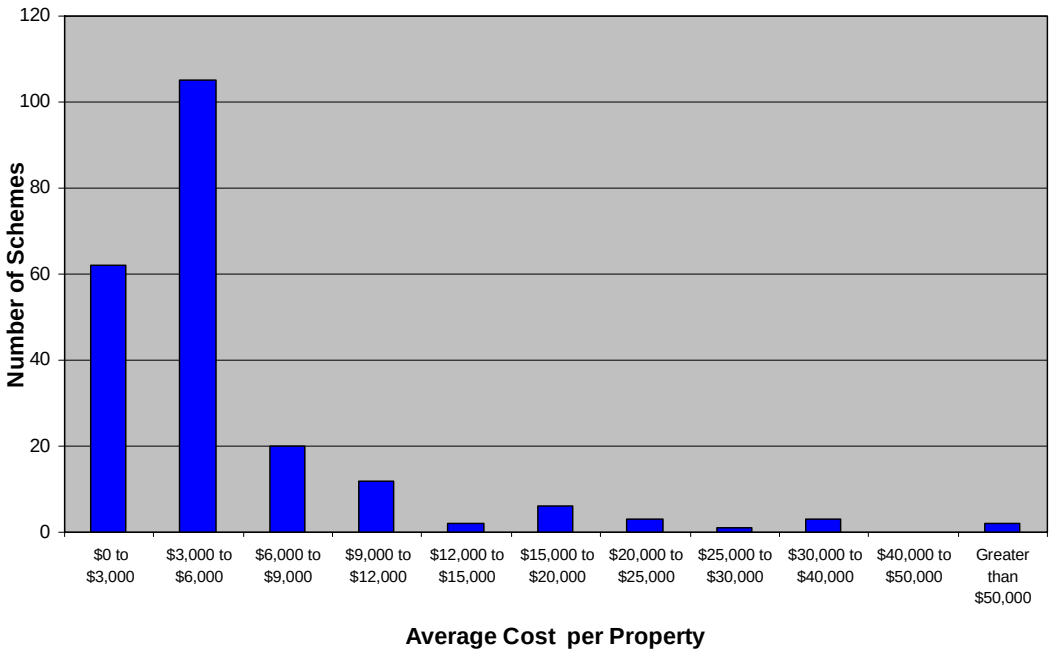
The sensitivity of average distribution costs to asset classification assumptions can be seen in the following figures for water distribution costs in country towns. Figure A6.1 shows the range of water distribution asset costs if mains are included as distribution assets, while Figure A6.2 shows the range where mains are excluded from distribution assets.

Figure A6.1 Average Written Down Replacement Costs of Country Water Distribution Asset – Excluding Reticulation Assets



Source: Water Corporation

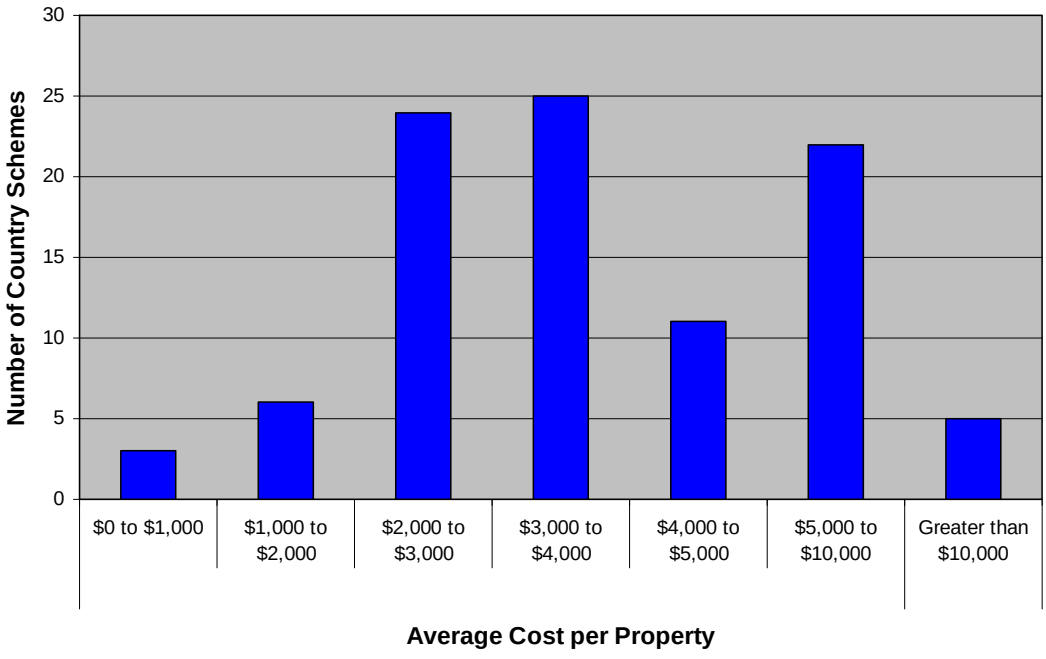
Figure A6.2 Average Written Down Replacement Costs of Country Water Distribution Assets – Excluding Mains and Reticulation Works



Source: Water Corporation

Country Wastewater Distribution Costs

Figure A6.3 Average Written Down Replacement Costs of Country Wastewater Distribution Assets (Excluding Reticulation Works)



Source: Water Corporation

Appendix 7 The New Facilities Investment Test (NFIT)

The New Facilities Investment Test (NFIT) applies to major investments in:

- electricity networks (section 6.52 *Electricity Networks Access Code 2004*); and
- gas networks (section 8.16 of the National Third Party Access Code for Natural Gas Pipeline Systems).

In order for a new facilities investment in gas or electricity networks to be added to the capital base, it must meet the NFIT. Under the NFIT, the new facilities investment must pass:

1) an **Efficiency Test**

and either:

2a) an **Incremental Revenue Test**

or

2b) a **Net Benefits Test**

or

2c) a **Safety and Reliability Test**

Efficiency Test

The electricity Code defines the efficiency test as follows:

6.52 New facilities investment may be added to the capital base if:

(a) the new facilities investment does not exceed the amount that would be invested by a service provider efficiently minimising costs, having regard, without limitation, to:

(i) whether the new facility exhibits economies of scale or scope and the increments in which capacity can be added; and

(ii) whether the lowest sustainable cost of providing the covered services forecast to be sold over a reasonable period may require the installation of a new facility with capacity sufficient to meet the forecast sales;

In the gas Code, the efficiency test is defined such that a new facilities investment may be added to the capital base if:

8.16(a)(i) that amount does not exceed the amount that would be invested by a prudent service provider acting efficiently, in accordance with accepted good industry practice, and to achieve the lowest sustainable cost of providing services;

The requirement to consider economies of scale or scope and the lowest sustainable cost of delivering services over a reasonable framework are set out in a separate sub-section (8.17) in the gas Code. However, the draft of the National Gas Rules omit this clause, on the basis that it is redundant or duplicative of clause 8.16(a)(i).

Incremental Revenue Test

To meet the incremental revenue test, new facilities expenditure must be justifiable on the grounds that the expected incremental revenue generated as a result of the investment exceeds the amount of the capital expenditure.

The Incremental Revenue Test has its origins in the 1995 Statement of Policy by the U.S. Federal Energy Regulation Commission (FERC), which established a regulatory treatment of capital expenditure which was a hybrid of incremental pricing (in which new users pay for additions to capacity) and rolled-in pricing (in which the costs of additions to capacity are recovered from all system users through tariffs).[62] FERC was concerned that some expensive capacity expansions could produce large increases in tariffs if costs were fully rolled in. The Statement of Policy therefore allows for prices to be rolled in as long as the resultant increase in tariffs is not more than five per cent. Increases of more than five per cent were permitted if the pipeline owner could demonstrate that the system wide benefits from the new capacity would justify the impact on tariffs.

There has been considerable debate regarding the incremental revenue test, as part of past applications for NFIT approvals and also as part of the consultation on the draft National Gas Rules. The Ministerial Council of Energy published the second exposure draft of the National Gas Rules in July 2007.

The main complaint about the Incremental Revenue Test is that it can be difficult for prudent, but high cost, expansions to pass the incremental revenue test.[63]

- Unit costs of expansions tend to be cyclical, with low costs of capacity augmentation when there is spare capacity on the system (e.g. through additional pumping, or compression), and more expensive investments required when capacity is constrained (e.g. looping of pipeline assets).
- Some expansions may be high cost because of the high costs of inputs at the time when the expansion is needed.
- Tariffs are higher when there is spare capacity on a system, and lower when systems are close to full capacity – so it is more difficult for a new investment to meet the Incremental Revenue Test when capacity expansions are more needed.

As a result, the Incremental Revenue Test can result in under-investment in capacity at times when the incremental costs of expansion are high.

Several approaches have been suggested to address this issue.

- ***Exempt some types of capacity expansion***. Amendments to the Electricity Networks Access Code 2004 included a section on particular types of augmentations to the South West Integrated Network (e.g. pole to pillar connections, some types of subdivisions, temporary connections, high standard augmentations) which are exempt from the NFIT (Appendix 8 of the Code).
- ***Expand the system-wide benefits test***. The second exposure draft of the National Gas Rules includes as part of its New Capital Investment Criteria (section

[62] FERC (31 May 1995), *Pricing Policy for New and Existing Facilities Constructed by Interstate Natural Gas Pipelines: Statement of Policy*, 71 FERC 61,241 Docket No. PL94-4-000.

[63] Standing Committee of Officials of the Ministerial Council on Energy (July 2007), *Explanatory Material for the Second Exposure Drafts of the National Gas Law and National Gas Rules,* Appendix A: New capital investment criteria – changes from first NGR exposure draft and the Gas Code.

83) a broadened definition of the system-wide benefits test to capture some economic benefits which may not have been captured under the NFIT.

- ***Relax the tariff impact test***. A joint information paper by the Australian Energy Regulator and the ERA in August 2007 commenting on the New Capital Investment Criteria in the National Gas Rules suggested that one approach would be to allow a small increase in tariffs (as in the FERC approach), rather than no increase in tariffs, as under the Incremental Revenue Test.
- ***Consider impacts on tariffs over the longer term***. While some capacity augmentations may cause short term increases in tariffs, over the longer term, tariffs will be reduced as the additional capacity is utilised and cheaper expansion options are made available. The problem with using longer-term analyses is that future capacity expansions, costs and demand are uncertain.

System-Wide Benefits Test

The system-wide benefits test (in gas) or net benefits test (in electricity) requires that the service provider satisfy the regulator that the new facilities investment has system-wide (or net) benefits that justify the approval of higher tariffs.[64]

Advice by NERA to the Ministerial Council on Energy prior to the second exposure draft of the National Gas Rules was that the system-wide benefits test be expanded to capture economic benefits which may not have been captured under the NFIT. These benefits relate to the value to gas producers, users and end users associated with the higher sales of gas, and increased security and service reliability, resulting from a capacity expansion, namely:[65]

- the value to end users of being able to purchase additional supplies of gas at the delivery location, as approximated by those users' maximum willingness to pay (for delivered gas), net of the price they are required to pay for those additional supplies;
- the value to gas producers of being able to sell additional quantities of gas, as approximated by the incremental revenues arising from additional gas sales, less the incremental costs of gas production; and
- the value to retailers (or aggregators) – who perform an administration, contract negotiation and risk management service for producers and end-users – of being able to offer their services across a greater volume of gas sold, net of the cost of performing those services.

The additional benefits do not include benefits to gas transmission or distribution service providers, such as economic profits or producer surplus, as this would result in double-counting of benefits.

In line with the advice provided by NERA, the second exposure draft of the National Gas Law and National Gas Rules includes a modified system-wide benefits test for new facilities investments, as follows:

Rule 83 (New Capital Investment Criteria (draft amendments):

(3) The expenditure must also be justifiable on one or more of the following grounds:

…

(b) overall the economic value of the investment is positive;

[64] Section 8.16(a)(ii)B of the National Gas Code or Section 6.53(b)(ii) of the WA Electricity Code.

[65] Cited in Standing Committee of Officials of the Ministerial Council on Energy (July 2007), op.cit., p31.

…

(4) In deciding whether the overall economic value of the capital expenditure is positive, consideration is to be given only to the economic value directly accruing to gas producers, users and end users.

Safety and Reliability Test

To meet the safety and reliability test component of the new facilities investment test (section 6.52(b)(iii) of the *Electricity Networks Access Code 2004*) a new facilities investment must be "*necessary to maintain the safety and reliability of the covered network or its ability to provide contracted covered services*".

Appendix 8 Glossary

ABS	Australian Bureau of Statistics
ACCC	Australian Competition and Consumer Commission
CCI	Capital Cost Index
CSO	Community Service Obligation
DSP	Development Servicing Plan
ESC	Essential Services Commission (Victoria)
HV Pool	High voltage pool (Western Power)
IPART	Independent Pricing and Regulatory Tribunal (NSW)
kL	Kilolitres, which is 1,000 litres
kVA	Kilovolt amps (a measure of power in electricity)
MEA	Modern Equivalent Assets
ML	Megalitres, which is 1,000 kilolitres, or 1 million litres
NCP	National Competition Policy
NFIT	New Facilities Investment Test
NPV	Net Present Value
NWI	National Water Initiative
Ofwat	The economic regulator of the water and sewerage industry in England and Wales
SHC	Standard Headworks Contribution
SRE	Standard Residential Equivalent, defined as the basic annual demand for water, wastewater or drainage services for a single residence in a typical urban location.
UDAC	Urban Development Advisory Committee