
Response to the Draft Decision on Prices for Water and Wastewater Services in the ACT



**Regulatory period
commencing 1 July 2008**

**Submission to the
Independent Competition and
Regulatory Commission**

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ACTEW Corporation Ltd
ActewAGL House
Level 9, 221 London Circuit
CANBERRA ACT 2601
ABN 86 069 381 960

GPO Box 366
CANBERRA ACT 2601
Tel (02) 6248 3111
Fax (02) 6248 3567
www.actew.com.au

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1. Introduction

1.1 Background to this submission

This submission responds to the Draft Report and Price Direction¹ (the draft decision) of the Independent Competition and Regulatory Commission (the Commission) on the prices to apply to water and wastewater services provided by ACTEW Corporation (ACTEW) in the ACT for the five-year period commencing 1 July 2008 (the next regulatory period). In doing so, it builds on the information and recommendations contained in the comprehensive submission provided to the Commission in July 2007 (ACTEW's major submission), and subsequently made public in September 2007 on release of the Commission's working conclusions paper for the price review.

ACTEW is the licensed provider of water and wastewater services in the ACT under the *Utilities Act 2000*. The Commission makes price directions in response to a reference from the responsible minister under the *Independent Competition and Regulatory Commission Act 1997* (the ICRC Act) including any terms of reference to investigate specific issues.

The regulatory framework used by the Commission intends that ACTEW is able to raise sufficient revenue from its charges to efficiently and sustainably offer services to the required standards and that ACTEW's owners receive an appropriate return on their substantial infrastructure investment. As well, the review should result in the adoption of tariff structures that signal to users the sustainable cost of water and wastewater services while raising the revenue in the simplest, fairest and most efficient way.

ACTEW has a number of serious concerns over elements of the draft decision that will affect ACTEW's ability to continue to provide water and wastewater services to the required standards and also to provide its owners with an appropriate return on their considerable investment in water storage and water and wastewater treatment and reticulation infrastructure. The aim of this submission is to enhance the Commission's knowledge and awareness of these matters to ensure the Final Decision properly recognises costs and risks and compensates ACTEW in accordance with the requirements of incentive based regulation.

¹ Independent Competition and Regulatory Commission (ICRC) 2007A, Water and Wastewater Price Review, *Draft Report and Determination*, Report 11 of 2007, 16 December

1.2 Review process and milestones

The draft decision follows an extended process by the Commission involving the release of an information paper² in August 2006, three discussion papers (in November 2006 and March and August 2007) and a working conclusions paper³ in September 2007. On 28 February 2007, the Government issued Terms of Reference⁴ to the Commission under the ICRC Act specifying matters to be addressed.

In July 2007, ACTEW provided the Commission with its major submission outlining views on the issues before the Commission including:

- its forecasts of efficient costs of operation and maintenance and prudent expenditure on capital projects during the next period;
- calculation of an appropriate risk adjusted rate of return on the investment in water and wastewater infrastructure by ACTEW's owners;
- pricing to ensure effective resource management.

ACTEW also provided responses to the Commission's discussion papers and working conclusions paper on 7 September and 19 October 2007, respectively.⁵

During August 2007, the Commission's consultants McLennan Magasanik Associates (MMA) in conjunction with WorleyParsons (together, the Commission's consultants) began a detailed review of ACTEW's actual and forecast capital expenditure (capex) and operating and maintenance expenditure (opex) to determine whether each was prudent and efficient. This review involved close examination of planning processes and project documentation, meetings and interviews with key staff and inspections of assets. The review culminated in a final report to the Commission on 16 November 2007.⁶

On 23 October 2007, the ACT Chief Minister announced a decision,⁷ consistent with the recommendations of the Government's Water Security Taskforce, to proceed with a suite of measures for implementation to enhance the ACT's water security in the face of continuing drought and predictions of adverse effects of climate change on the Territory's water resources. As a result, on 15 November 2007 ACTEW submitted to the Commission a confidential information paper⁸ outlining the nature of the projects it was to undertake under the Water Security Plan and their indicative timings and costs. The

² ICRC 2006A, *Information Paper – Prices for Water and Wastewater Services*, Report 13 of 2006, August

³ ICRC 2007B, *Water and Wastewater Price Review: Working Conclusions*, Report 9 of 2007, September

⁴ Corbell, Simon MLA 2007, ACT Attorney-General, Reference to the Independent Competition and Regulatory Commission to investigate water and sewerage pricing from the period starting 1 July 2008

⁵ ACTEW 2007B, *Response to the ICRC Working Conclusions Paper*, 19 October

⁶ McLennan Magasanik Associates (MMA) and WorleyParsons 2007, Report to the Independent Competition and Regulatory Commission, *Review of capital and operating expenses for water and wastewater services – Final Report*, 16 November

⁷ Stanhope, Jon MLA 2007, ACT Chief Minister and Minister for the Environment, Water and Climate Change, "Enlarged Cotter Dam, Murrumbidgee extraction and pilot purification plant highlights of water plan", *Media Release 481/07*, 23 October

⁸ ACTEW 2007C, *Information paper: Implementation of the ACT Government's announcements on Water Security*, 14 November

Commission included these estimates in its draft decision, subject to verification of their costs, along with the Commission's own estimates of the efficient costs of operation of ACTEW's water and wastewater businesses.

ACTEW is currently engaged in the detailed task of fully scoping and costing the relevant projects in Phase 1 of the Water Security Plan. These projects are:

- design and construction of new Cotter Dam enlarging the capacity of the current storage from 4 GL to 78 GL;
- design and construction of facilities for the direct transfer of water from the Murrumbidgee River to the Googong Reservoir;
- design of a demonstration water purification plant;
- implementation of a pilot smart-metering project.

Work is progressing in relation to all of the water security projects. Assessment of the options for the Murrumbidgee to Googong transfer has generated a preferred option which is to transfer water from Angle Crossing. Three alternative routes were assessed and the Angle Crossing option is subject to considerable further work. Costing for the Angle Crossing option remains at an early stage of development as preliminary design and detailed costing are still to be completed. However the expected cost is now in the order of \$105 million, up from the \$70 million indicative estimate previously provided to the Commission. The increase is due to a more accurate definition of the pipeline route and terrain combined with more up to date contractor rates. The Angle Crossing to Googong option remains the least expensive and quickest to construct.

Negotiations are continuing to explore the purchase and transfer of water from NSW irrigators to ACTEW's storages via the Snowy Mountains Scheme as a possible alternative to construction of a water purification plant under Phase 2 of the Water Security Plan.

ACTEW intends to provide the details of the assessments to the Commission as they become available.

1.3 ACTEW assessment of the review process

ACTEW remains disappointed with the process of the review in two main areas and believes these have hampered ACTEW's ability to contribute information and advice to inform the Commission on a number of key decision areas in the Commission's draft report.

1. ACTEW believes that the Commission's discussion and working conclusions papers did not fulfil their stated purpose of providing an indication of the Commission's thinking on central issues before the release of its draft decision. Three aspects in particular are identified that substantiate ACTEW's view. Firstly, the Working Conclusions paper essentially repeated the analysis of the Weighted Average Cost of Capital (WACC) from the Commission's Return on Capital discussion paper and did not directly address the parameters proposed in detail

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by ACTEW, or reveal a WACC estimate for discussion, debate and resolution. Secondly, the first discussion paper indicated that the Commission did not favour the introduction of five-year demand forecasts in advance for pricing purposes and declared this to be inappropriate, yet this form of regulation has emerged as a central element of its draft decision, when there have been no public submissions in the interim period seeking or supporting such a change. Thirdly, at no time before the draft decision was made did the Commission signal its upcoming view on the outsourcing of operation and management of water and wastewater services and the approach it was likely to take to contractor payments. This is despite the nature of the contractor arrangements with ActewAGL being discussed at length in ACTEW's major submission⁹ and similar issues being covered in recent decisions in other jurisdictions.

2. ACTEW is also critical of the process that developed in relation to the Commission's consulting review into ACTEW's opex and capex forecasts. This process eventually impacted ACTEW's ability to effectively respond to the final conclusions of the review. This is despite ACTEW and ActewAGL giving full cooperation to the process over an extended period, including full access to personnel and documentation. In several important areas, the consultants were unable to come to conclusions. Moreover, the final reporting deadlines effectively denied ACTEW the opportunity to properly and effectively comment on issues raised in their final report, in advance of the Commission's draft decision that drew on findings of this report.

As a result, ACTEW is very keen to now take the opportunity via this submission and in the final phases of this review process to inform and assist the Commission in its final deliberations on these and other important matters contained in the draft decision.

1.4 Major matters for the Commission's attention

Several central proposals in the draft decision raise strong concerns for ACTEW. Chief among these are:

- the proposal to introduce fixed five-year prices for water and wastewater substantially increases risk and uncertainty for ACTEW, when the basis for this change in approach has not been justified and the countervailing net benefits of the proposal have not been demonstrated;
- the proposal to defer all potential pass through claims over the next five years for review as part of the next price path review that would apply from July 2013;
- the Commission's approach to assessing the proposed level of payments to ACTEW's operating and management contractor, ActewAGL;
- cuts to both opex and capex programs which are primarily due to either misunderstanding or incomplete analysis of ACTEW's proposals;

⁹ ACTEW 2007A, Section 6.2 *Arrangements for Service Delivery*, p 77

- the need to provide an adequate return to ACTEW's owners on their infrastructure investment.

The submission also responds to several matters where the Commission has sought further information from ACTEW:

- in relation to the request¹⁰ for further information on its cost of contractor management and strategic direction;
- a response to a submission from the ACT Planning and Land Authority (ACTPLA) as Technical Regulator under the *Utilities Act 2000* expressing concerns over ACTEW's service level performance;¹¹
- information to assist the Commission with an appropriate methodology for correcting the apparent bias in the yields of indexed Commonwealth Government Securities (CGS) in determining the real risk free rate of return as part of determining ACTEW's Weighted Average Cost of Capital (WACC).¹²

¹⁰ ICRC 2007A, pp 45-47

¹¹ ICRC 2007A, pp xvii, 26-27

¹² ICRC 2007A, p 88

2. Price setting and pass-throughs

2.1 Tariffs and price setting

Prices for ACTEW's water and wastewater services are currently constrained by an average revenue cap, based on ACTEW's revenue requirement, forecast at the time of the 2004 price review. To minimise discrepancies between forecast and actual recovery of this revenue requirement, prices are reviewed annually in order to reflect the most up to date forecasts of demand. During the current period, the Commission has allowed the pass-through of eligible exogenous unforeseen cost changes on an annual basis to ensure that the actual revenue requirement does not inappropriately deviate from the forecast revenue requirement as a result of events outside of ACTEW's control. Cost changes within ACTEW's control are not passed through to ensure there is an appropriate incentive to manage costs. In doing so, ACTEW expects to be given every opportunity to recover its required revenue amount as determined by the Commission. Consistent with this principle, the Commission has allowed ACTEW to recoup significant differences arising from approved pass through events that were unexpected and material and outside ACTEW's control.

In its July 2007 major submission, ACTEW put a strong case to the Commission for delegation of water price setting responsibilities to ACTEW within the average revenue cap controls set by the Commission. This would best enable ACTEW to use its considerable expertise in water pricing to manage the resource as well as providing sufficient flexibility to implement a system of drought pricing (proposed by the Government as an option in its terms of reference¹³ for the review) to manage demand, as an adjunct to temporary water restrictions.

Instead, the draft decision represents a substantive move in the opposite direction with the proposal for the Commission to be responsible for assessing, establishing and fixing five-year prices for water and wastewater in real terms at the outset of the regulatory period. This is despite such an option being considered inappropriate¹⁴ by the Commission at the time of its discussion paper on this topic.

ACTEW rejects the five year approach

The Commission's draft decision proposes to significantly change the regulatory model applied to ACTEW by setting prices for the five years of the period at the time of the price review. Prices are to increase significantly in the first year of the regulatory period after which they would remain constant in real terms for the following four years (that is,

¹³ Corbell 2007

¹⁴ ICRC 2006B, p 44

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prices over these years will only adjust with the Consumer Price Index). The proposed approach incorporates pass-through of nominated categories of unforeseen costs at the following five year price reset (with the exception of the Water Abstraction Charge (WAC)—see below) and pass-through of revenues where over the period they deviate (over or under) by more than 10% from the revenue requirement set at the price review.

The Commission has cited the principal benefit of setting prices for five years in advance as “price certainty” for consumers¹⁵, despite the fact that this requirement:

- is not mentioned by consumers in any of the public submissions received by the Commission during the review to date;
- is not listed as a matter for consideration in section 20 of the ICRC Act or any of the terms of reference for the inquiry;
- will not be achieved as prices are to vary on an annual basis with changes in the WAC;
- is inconsistent with its previously held view that “ACTEW should have the flexibility to adjust relative prices, and potentially steps, during the period.”¹⁶

ACTEW is extremely concerned that a major adjustment to the current regulatory process, that was neither sought nor required by ACTEW or any other stakeholders, and that could only be expected to have significant adverse impacts on ACTEW at a time of continuing uncertainty with respect to water infrastructure investment, has been imposed in the draft decision.

ACTEW rejects the Commission’s approach on a number of grounds. These reasons are substantive and warrant detailed consideration by the Commission.

While ACTEW accepts there may be unforeseen movements in its forecast costs under incentive regulation, these arrangements provide that ACTEW be given every opportunity to raise sufficient revenue to cover these forecast costs. The Commission’s fixed five-year prices—more specifically, the Commission’s reliance on fixed five-year demand forecasts to set prices—simply imposes an additional *revenue* risk on ACTEW.

In addition, and quite importantly, the Commission’s proposal prevents ongoing tariff reform and important structural reforms to tariffs, with wastewater charges affected in particular. ACTEW has a long standing plan to reduce the emphasis on fixtures-based charging and incorporate volumetric and strength components, which may now be required sooner to encourage pre-treatment or other means to mitigate the impact of excessive salt in water increasingly sourced from Googong Dam and the Murrumbidgee River.

ACTEW must also be compensated in full and on a timely basis for any unforeseen and material costs it incurs at the nominal WACC to compensate for the opportunity cost of capital on additional pass through costs that arise during the next regulatory period.

¹⁵ ICRC 2007A, p 105 The Commission argues that certainty provides customers with an increased ability to make informed decision about their future investments in water saving devices and fixtures.

¹⁶ ICRC 2007A, p 121

ACTEW has proposed a continuation of annual pass through adjustments in its submissions to the Commission, as proper compensation can only be achieved via up to date, annual pass through adjustments that ensure a balance is retained between revenue and ACTEW's legitimate costs of providing services. Annual adjustments facilitate a proper assessment of pass through costs within the immediate context of the expenditure decision and avoid the need for costly administration in both tracking and recording the basis and amount of the pass through claims, plus the determination of an adjustment index for fully compensating the opportunity cost of capital.

ACTEW notes that the Government's terms of reference require the Commission to have regard to the costs and benefits of the various forms of regulation. The Commission specifically did not publish the costs and benefits of its proposal to change the form of regulation and set prices five years in advance, yet this proposal involves real and significant risks for ACTEW and community wide impacts from a loss of pricing flexibility and reform in the medium term.

ACTEW believes that there is little or no benefit in changing the form of regulation and that any benefits of an advance five year price setting arrangement and a lag for adjustments of legitimate and unforeseen pass through costs would be clearly outweighed by the significant risks to ACTEW. ACTEW proposes that there is a much stronger case, particularly due to the uncertainty with Water Security Plan costs, for retaining the current practice of annual cost pass through adjustments and annual price setting based on the most reliable forecasts available, subject to the following enhancement that would improve the process for both parties, per its July 2007 submission.

ACTEW had proposed the engagement of forecasting experts to develop an annual forecasting model to reduce the regulatory burden of the annual price setting approach, for example, the Breusch-Letcher demand forecasting model. ACTEW notes that it was in the process of working with the Commission on an annual forecasting methodology which would have reduced the need for extended negotiation of competing forecasts and it was agreed this would be subject to peer review by the Commission. The aim had been to establish an agreed and statistically valid annual forecasting model that reduced the burden of annual price resets while allowing prices to be set that adapted to new information and developments throughout the period. This would reduce the likelihood of significant under or over recovery of revenue and the reliance on a deadband mechanism that itself is subject to statistical discrepancies.

This process remains open to the Commission and warrants urgent re-consideration.

Minimum conditions for considering a five year approach

If the Commission were to proceed with the use of advance five-year forecasts to achieve price certainty for consumers, this form of regulation would require, at the very minimum:

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1. A mid-term price review process for Water Security Plan costs, potentially required on 1 July 2010 after 2 years of the new price path. While this will add to the cost of regulation, it is essential to ensure ACTEW's prudent and efficient expenditure on these vital projects, the magnitude and timing of which is relatively uncertain, is properly assessed and compensated on a timely basis. This approach was applied in another jurisdiction where this form of regulation has been applied and major project expenditure was uncertain at the time of the price path decision. Significant uncertain costs in connection with the Water Security Plan that have not yet been incorporated in ACTEW's revenue requirement may need to be incurred early in the price path and should not be held back for compensation until the subsequent regulatory period.
2. Application of a reduced deadband 'width' of around 3% of forecast revenue from water sales. Under the Commission's draft decision, shortfalls of revenue could only be recovered when they exceed a threshold of around \$75 million over the five years. ACTEW is very concerned about the significant risk of incurring revenue shortfalls in the order of \$75 million – a risk that is essentially outside ACTEW's control. ACTEW proposes setting a reduced deadband 'width' of around 3% of forecast revenue from water sales including revenue from supply and consumption charges, but excluding the Government's WAC and bulk sales to Queanbeyan City Council (QCC) (around +/- \$23 million over five years).¹⁷ ACTEW also proposes that if revenue falls outside this +/-3% deadband, an adjustment be made at the next price review to recoup/offset the full revenue shortfall/overrun relative to the revenue forecast in the Commission's 2008 final decision.
3. Moving away from the P_0 approach, which allocates the real price impact to the first year of the regulatory period. The indicative prices set out in the draft decision involve a substantial price shock for consumers at the outset of the period. Also, the price increases would occur in advance of realisation of customer benefits in terms of improved water supply security. This impact will only be exacerbated by the catch-up for pass through costs including the cost of revenue forgone in 2008-09 as detailed below.
4. Establishment of an improved and agreed upon revenue forecasting approach. The Commission noted that "the difficulty with using the (Letcher and Breusch) model to forecast usage is that agreement needs to be reached on the level of restrictions and evaporation over the forthcoming 12 months in order that they can be fed into the model"¹⁸. The price setting approach adopted by the Commission in the draft decision requires agreement on these forecasts over 60 months ahead. There is enormous uncertainty associated with forecasting over such a

¹⁷ WAC should be excluded from the calculation because variations in demand similarly affect *both* revenue and WAC liability. Revenue from bulk water sales should be excluded from the calculation because over- and under-recovery of revenue from QCC should not result in an adjustment to ACT prices. It may result in an adjustment to the bulk water price, but this is a matter for contract negotiations between ACTEW and QCC.

¹⁸ ICRC 2007A, p 29

long time horizon, particularly with regard to the expected impact of water restrictions and refinement of assumptions may be required prior to agreement on the forecasts.

5. The application of the nominal WACC (and not the risk free rate of return as proposed) to compensate ACTEW for the risks associated with the lagged recovery of costs eligible for pass through under the Commission's end of period approach. The Commission's proposed approach is inconsistent with other aspects of its financial modelling and there exist several regulatory precedents for use of the nominal WACC¹⁹.

ACTEW also recommends that the Commission:

- engage ACTEW in discussion about the tariff structure and assess the merit of having the step in the tariff structure at 274L/day per arguments in its earlier submissions on this matter.
- apply a weighted average price cap to overall miscellaneous fees and charges to allow the implementation and removal of fees and charges within the cap to provide ongoing flexibility to properly signal costs and ensure an efficient allocation of resources to these services.

2.2 Pricing and demand management

ACTEW supports the Commission's decision to accept its proposal on daily pricing and will implement this key pricing reform from July 2008.

In its submissions to the Commission during the review process, ACTEW also recognised that any water pricing proposal must incorporate a measure of flexibility to account for consumption targets set by the ACT Government. The ACT Government has set two types of targets for water consumption in the ACT in recent years. Firstly, short-term 'drought' water consumption targets have been applied to maintain security of supply as water storage has fallen to low levels. Secondly, the *Think Water Act Water* (TWAW) strategy has set long-term water consumption targets for 2013 and 2023.

ACTEW supports consideration of the application of both water restrictions and drought pricing as complementary demand management tools during periods of water shortages. Their balanced application would minimise the social costs associated with the inconvenience of water restrictions, while also recognising that the relative inelasticity of water demand to price means that consumer behaviour needs to be managed in the interests of the whole community.

ACTEW is keen to explore a pricing mechanism that would help achieve this outcome, but notes that such a mechanism, and demand management in general, will require the flexibility inherent in a system of pricing which involves annual price resets, rather than the five year in advance approach proposed by the Commission in its draft decision.

¹⁹ Including the ESC's 'S-Bank' mechanism for electricity distributors.

2.3 Water pricing

ACTEW's proposed pricing reforms to the Commission throughout the review were developed in relation to a number of key principles, including:

- demand management – Prices should manage demand in accordance with relative water scarcity and the ACT Government's target reductions in per capita potable water use by influencing consumption behaviour, consumer investment and lifestyle decisions in the most efficient possible manner.

ACTEW has also noted the Chief Minister's support for establishing an appropriate price for potable water²⁰ and the Government's view that "water is a valuable resource, and prices need to encourage a more efficient use of this scarce resource".²¹ The ACT Government has also identified and supported the use of water pricing as a device for moderating demand as part of its demand management initiatives²².

ACTEW's proposed water pricing reforms from 1 July 2008 involved a number of other elements including:

- a light-handed approach to regulating price structure, allowing ACTEW to bring to bear its expertise and adjust the price structure during the regulatory period as necessary (subject to the revenue cap controls);
- a more holistic approach to water pricing with improved coordination between ACTEW's prices and the ACT Government Water Abstraction Charge (WAC);
- The use of the WAC as a price rationing tool to complement and support water restrictions;
- a single price step of 274 litres/day²³ in ACTEW's price, applied on a daily (pro rata) basis to provide a more consistent price signal;
- consideration of a 'rebate-style' restructuring of water bills to assist with demand management objectives without sacrificing the efficiency of the underlying price structure; and
- continued investigation of the costs and benefits of improved metering technology.

ICRC draft decision

In its draft decision on the matter of water pricing, the commission was reticent²⁴ about the potential role of prices to help manage demand in the short to medium term:

The Commission therefore does not believe that short-term changes in tariffs would be an effective tool to influence demand and bring supply and demand back into equilibrium. This does not deny the role of price in influencing demand over the long term and funding infrastructure designed to improve the security of supply in the long run.

²⁰ *Canberra Times* 19 August 2004, p 7

²¹ "Environmental Priorities for 2006-07 - Water Resources Management", ACT Budget 2006-07, Chapter 10 Budget Paper No. 3, pp. 207,

²² http://www.treasury.act.gov.au/budget/budget_2006/files/paper1/bpaper1.pdf p 24

²³ Equivalent to 100 kL/annum

²⁴ For example, ICRC 2007A, p 122

However, ACTEW has referred to multiple studies that have recognised that water demand is clearly responsive to changes in price, even though it is relatively inelastic²⁵.

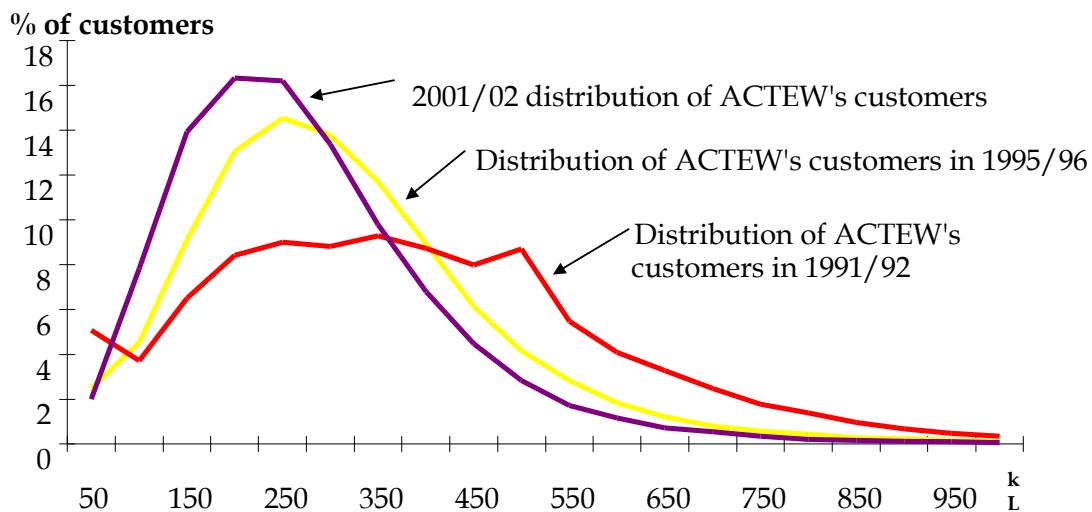
This is evidenced in Canberra where water prices have combined with awareness and education campaigns to reduce the average domestic use in the late 1980s of around 400 kL per annum to around 280 kL per annum in the late 1990s, before the current drought and the imposition of restrictions²⁶.

ACTEW is also aware of the view that real ‘time of use’ pricing would better facilitate informed water use by the community and noted the Commission’s view in its pricing discussion paper that:

In the ACT, consumption is measured using simple accumulation meters which are read manually and record only total usage. No information is recorded as to when usage occurred. Meters are read (and customers billed) quarterly, with bills determined on a cumulative annual basis. Because the meters do not record any information about when consumption occurred and because of the delay between consumption and when customers are billed the ability to continually adjust prices to send updated price signals is restricted.²⁷

While it is accepted that time of use pricing would provide improved price signals to customers, ACTEW believes that existing metering, combined with drought prices would be expected to have an immediate and ongoing effect. This is evidenced by the impact on water consumption of the water pricing reforms since the early 1990s, as illustrated in Figure 2.1.

Figure 2.1 Impact of ACT water pricing reforms since the early 1990s



²⁵ ACTEW 2007A, p 45

²⁶ ACTEW 1997, *Internal Working Paper: ACT Water Supply and Pricing*, p 4

²⁷ ICRC 2007C, p 21

The price reforms of the 1990s had an immediate and ongoing impact on consumption behaviour and resulted in a new water demand profile for the ACT. Prior to reform, the typical ACT household consumed anywhere between 150kl and 500kl, whereas the typical ACT household now consumes between 150kl and 300kl.²⁸

The proposed drought pricing option, when combined with a move to daily charging would be expected to continue to make existing metering and water pricing a very useful tool for demand management in the ACT when combined with information and public education campaigns.

2.3.1 *Demand management and drought/scarcity pricing*

ACTEW continues to support the use of pricing as a demand management and rationing tool to complement existing restrictions in line with the Terms of Reference for the price review.

ACTEW recognises that the use of pricing, even in the short term, could provide some significant advantages over the current approach that relies upon behavioural restrictions alone.

ACTEW has noted that the ACT Government has advised the Commission in its submission of November 2007 that it would not want to use the WAC for this purpose.

However, with respect to demand management and drought/scarcity pricing schemes, ACTEW notes that there are a variety of ways of designing such a scheme, ranging from a pure pricing mechanism to schemes which effectively allow trades between consumers.²⁹

2.3.2 *Drought pricing principles*

Given the importance of this issue, ACTEW is looking to explore pricing options to better manage water resources at the time of drought and supply shortages. In doing so it has noted the Commission's views and has responded by developing a number of principles for consideration to guide the development of drought pricing options.

These principles are listed below:

- Drought pricing needs to reinforce behavioural restrictions if it is to help ensure we best share available water supplies and optimise community welfare.
- Drought prices should be implemented to signal the scarcity of water resources at the time that those resources are most in need of conservation. In most cases, this should simply require a change in the timing of a price increase, so that it occurs when it is actually needed to signal supply shortages. This is in contrast to the current arrangement where the scarcity costs are passed through to

²⁸ Giurietto, Graham & Letcher 2002, *The Economics Cost of Urban Water Supply*, Paper presented at 2002 Conference of Economists, p8-9

²⁹ CIE 2008 (unpublished research)

customers much later in the period. That is, if we could perfectly forecast demand when setting prices, then prices would be higher when restrictions were in place and there would be no need for later catch-ups. This is the minimum price rise that should occur under drought pricing. It could be facilitated by more frequent price changes if necessary during periods of water shortages.

- Scarcity-driven price increases should apply to all potable water use, except where there is a clear benefit from differentiating between water uses.
- Revenue from drought pricing must not mean ACTEW earns more than its total revenue cap over the regulatory period as set by the Commission.
- ACTEW needs to be neutral to the imposition of restrictions, neither benefiting nor being harmed by their application, from a revenue perspective. ACTEW manages restrictions on the basis that they impact community behaviour to the degree required to fairly manage available supplies. ACTEW is also investing in infrastructure so that, in the long run, the expected amount of time spent in restrictions is reduced to an 'efficient' level.
- Any revenue from drought prices would contribute to ACTEW meeting its allowed revenue cap.
- ACTEW is best placed to advise on the drought prices necessary to influence demand and revenue, arising from its recent in depth experience and knowledge arising from the current drought.

2.3.3 *Drought pricing and dam levels*

An initial proposal for consideration is that water prices could vary according to aggregate dam levels because the desired demand reduction also varies according to dam levels. "The total cost of water could move flexibly and inversely with dam levels"³⁰, across one or more levels that are clearly and easily understood (in advance) by the community.

In its most simple form, higher prices of water could be applied to all users when dam levels fell below specific trigger levels. The trigger levels and prices would be announced in advance so that price expectations would be tied to an objective fact before the event was triggered.

While price increases in the presence of behavioral restrictions (in the short term) appears to have the disadvantage of using two instruments (restrictions and price) to hit one target (consumption), there are, in fact, some offsetting advantages. First, as already noted, having prices associated with dam levels makes transparent what is already current practice under ACTEW's revenue cap (that is, an increase in price as quantities are reduced). Second, restrictions do not create incentives for all users to find ways of saving water, first because some users are simply not subject to restrictions, and second because restrictions can create perverse incentives for some users (watering every second day, even though this is not necessary).

³⁰ Access Economics Pty Ltd 2007, ACT Water Pricing Policy, report for ACTEW Corporation, June

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Further, the importance of building community perceptions about the need for higher prices in times of drought should not be discounted. While at the moment the community is aware of some imposed behavioral norms, for the long term it will be important to build an association between drought and an explicit increase in the cost of water. This pricing concept provides a means of implementing this transition.

It is often observed that short run price responses are quite inelastic in aggregate, so that there would be limited responses to drought prices in achieving consumption reductions. However, water restrictions have an implicit price effect (through inconvenience and the opportunity cost of time). Drought pricing would allow this effect to become more explicit, and to the extent that it does provide additional incentives for some users (as set out above) it may delay the need to increment the stages of restrictions, leading to a more even distribution in the burden of reduced supplies during drought. Put another way, while the aggregate response might be inelastic, the composition effects could be significant.

Even in the absence of real time metering, these price expectations may significantly influence the behaviour of some customers. It has been observed that optimal pricing schemes require real time meter information in order for the user to be able to respond to price changes. While this is largely true, the objective of this proposal is not to move to the optimum, but to provide an enhancement to the effectiveness of the current regime and to provide a transition path to longer term approaches.

An alternative variation to this proposal could involve water prices being increased as each level of water restrictions was imposed, noting that higher prices would act to defer the imposition of restrictions i.e. the imposition of higher levels of restrictions would be expected to be deferred for longer and imposed for less time if combined up front with higher prices.

Since restriction levels are based upon specific dam levels, this concept is a specific case of the above where the dam levels that trigger prices would potentially be the same as those that trigger restrictions. It has an advantage as a transitional measure in that it would explicitly link the already familiar levels of restrictions with an explicit price signal however, there may be a (incorrect) perception that ACTEW would benefit by way of higher prices when operating within a restrictions regime.

2.3.4 *Advantages of drought pricing*

ACTEW has identified a number of advantages with its drought pricing proposal even when applied as a short term demand management measure and even in the absence of time of use metering.

In particular, these concepts would:

- make the current *effective* drought price (whereby prices are increased following a revenue shortfall from restrictions in line with ACTEW's revenue cap) considerably more transparent to customers, providing a more immediate price signal of the need to reduce consumption;

- provide additional incentive to save water in areas not currently captured by behavioural water restrictions;
- provide an additional enforcement mechanism for behavioural restrictions, particularly helping to eliminate some of the perverse incentive that can arise from behavioural restrictions;
- begin to create a perception, in customers' eyes, of the link between shortages and increased costs of water; and
- provide a transition to longer term approaches to drought demand management.

2.3.5 Further investigation required

ACTEW seeks the Commission's support in investigating the concepts and proposals above to see if there is an economically and socially preferred mix of prices and behavioural restrictions that can improve overall community welfare. Pareto efficient improvements warrant investigation and ACTEW is pleased to take the initiative to encourage focussed research and analysis on this very important issue.

ACTEW's preliminary assessment is that the potential upside of these concepts (indeed, at worst they are likely to provide the same outcomes as the current regime of behavioural restrictions) is sufficient to justify careful further examination of both their role in the short term and as a part of a long term suite of measures.

ACTEW proposes to initiate an immediate review of this issue in order to provide advice on this matter to the Commission before it makes its Final Decision on pricing in April 2008.

In order to develop a drought pricing scheme that could be applied in practice in the ACT it will be necessary to give consideration to the following areas of inquiry:

- estimates of elasticity and estimated demand curves and how this elasticity varies by different types of customers;
- forms of regulation for tariff setting within the constraint of the revenue requirement – eg frequency of updating demand forecasts and prices;
- the role of fixed charges in ensuring greater revenue uncertainty;
- the ACT Government water restrictions policy;
- the Commission's draft decision to implement daily pricing and the price step;
- the quarterly meter reading and billing cycle and any administrative issues;
- careful assessment of any impacts on low income consumers.

2.4 Cost pass-throughs from current period

Given the Commission's preferred approach for reviewing cost pass through applications at the end of the five year period ACTEW has, based on actual costs for the 2007/08 thus-far, forecast additional cost pass throughs expected to be incurred over the entire 2007/08 financial year.

ACTEW has revised the amount to be included in the revenue requirement for 2008-09 to around \$49.5 million. This figure is has been revised up from the \$36 million in

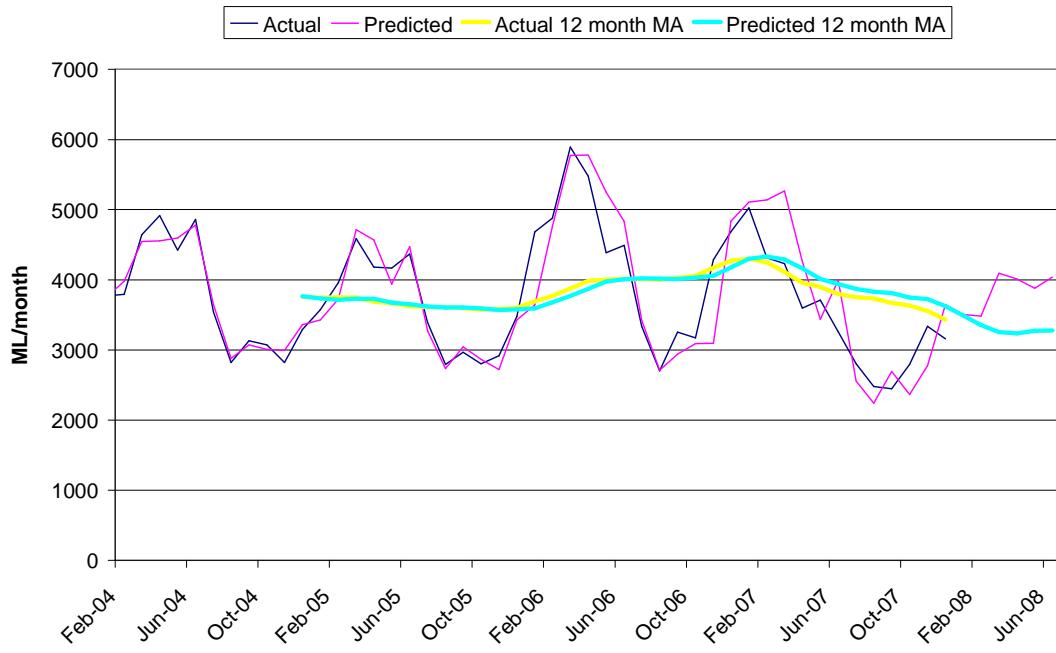
ACTEW's July 2007 major submission. The majority of this increase represents the extra forgone revenue due to the costs of water restrictions in 2007-08.

2.4.1 Revenue forgone due to water restrictions

In its major submission, ACTEW proposed that revenue forgone due to water restrictions in 2007/08 be passed through in prices in 2008/09 and 2009/10. Given the Commission's draft decision to allow pass throughs to occur only at the outset of the regulatory period following, an estimated revenue shortfall for 2007-08 should be incorporated in the revenue requirement for the coming regulatory period. ACTEW estimates this pass-through at around \$13.2 million (in 2007/08 dollar terms).

This estimate was determined by forecasting consumption for the remaining months of 2007/08 (see Figure 2.2) and subtracting the volumetric revenue expected to result from that 2007-08 consumption estimate from the volumetric revenue forecast for 2007/08 in ACTEW's pricing proposal of 7 March 2007.

Figure 2.2 Forecast consumption for the remainder of 2007-08



2.4.2 Other cost pass-throughs

Estimated costs for other pass-through items have been updated based on actual costs incurred over 2007/08 thus far.

The Future Water Options Stage II budget has been increased by \$2.9 million for 2007/08 to handle the effects of the ongoing drought. The 2007/08 program was extended to look at options to increase water supply security in the short term and to initiate a fish monitoring program to provide essential input into the required

Environmental Protection and Biodiversity Conservation Act submission and Environmental Impact Statement, as well as produce management procedures for the design, construction and operation of the enlarged Cotter Dam.

Drought contingency costs have also increased by \$2.9 million due to increased water pumping costs incurred in the first half of 2007/08. Between July and December 2007, 6.2GL and 2.1GL of water was pumped from the Cotter Dam and Murrumbidgee River respectively. This compares to 2.8GL and 1.2 GL in the six months previous.

In addition, due to higher than expected rainfall between September and November 2007, ACTEW has increased the expectation for higher pumping costs in the second half of 2007/08.

3. Service Standards

3.1 ACTEW's submission

ACTEW's major submission outlined in some detail the customer-oriented and technical standards under which it operates. It outlined the means by which the responsibility for meeting them, as well as ACTEW's non-financial performance targets, is transferred to the networks operator, ActewAGL, via the incentive provisions of the Utilities Management Agreement (UMA) between the two parties.

The major submission also referred to ACTEW's 2003 major study into preferences of water and wastewater customers for quality and service levels.³¹ This study remains the most comprehensive study yet undertaken into ACT consumer willingness to pay and preferences for various levels of utility services. While expenditure projections in ACTEW's submission are based on a continuation of existing service standards, ACTEW's Asset Management Plan reflects a strategy to maximise the net benefit as revealed by the study from investment in and maintenance of the network. As a result, ACTEW major submission was able to report significant improvements in service levels delivered at the customer interface, including:

- improvement in average response times from 77 to 39 minutes for the most highly disruptive water events involving loss of supply, reduction in quality of supply to a critical user or major damage or risk to the public property or environment;
- improvement in the average duration of these same events from 95 to 78 minutes;
- a 98% compliance with target sewer blockage remediation times and fewer customer complaints in this area despite an increased rate of blockages;
- a reduction in the rate of sewer blockage recurrence from 5% in 2000 to 2% in 2006.

3.2 The Commission's draft decision

3.2.1 *External indicators*

The Commission's draft decision outlined the conclusions of the reports it prepares in accordance with its objective under the *Utilities Act 2000* to encourage the provision of

³¹ National Economic Research Associates (NERA) and ACNielsen 2003, *Willingness to Pay Research Study, a Report for ACTEW Corporation and ActewAGL*, August

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safe, reliable, efficient and high-quality utility services at reasonable prices. These comprise a *compliance report* on licensees' compliance with the Utilities Act, licences and codes and a *performance report* focussing on financial, customer service and environmental performance, both prepared annually.

The Commission was able to report that for the *compliance report* covering 2005-06 (the most recent published), ACTEW had committed no material breaches of licences or other requirements.

The Commission's draft decision noted in relation to the *performance report* for 2004-05 (again, the most recently published), that "for most customer service standard indicators, ACTEW's performance is comparable with its peers".³²

The exception noted by the Commission is that "ACTEW performs substantially worse than its peers in relation to sewer chokes and breaks and sewer spills".³³ By "performs substantially worse" on these sewerage indicators, the measure refers to the incidents' occurrence, rather than the effectiveness with which ACTEW deals with them. It is an undeniable fact that sewer chokes and breaks occur with greater frequency in Canberra's sewers than in some comparable sewer networks. However, the reasons for this cannot be easily ascertained. It is possible that they involve Canberra's climate, relative aggressiveness of soils, composition of pipes, prevailing construction standards at the times they were laid, the prevalence and species of trees, or indeed any combination of these and other factors.

ACTEW has responded to this situation by innovation in its techniques of detecting potential problems via increasing use of Closed Circuit Television (CCTV) camera inspections (productivity of these inspections rose 55% from 2001/02 to 2005/06), preventative maintenance using root foaming and jet-rodding, replacement of worst performing sewers, faster response to incidents when they occur, and undertaking *smarter* repairs to reduce recurrence rates. ACTEW is acknowledged by its peers as a leader in applying these techniques.

Effectiveness of the UMA

During the current review, the Commission and its consultants noted the 47 Key Performance Indicators (KPIs) under the UMA and that these reflect both requirements set out in external licences and codes and the standards agreed between ACTEW and ActewAGL. The Commission notes that its consultants considered the UMA to be the core operational document to provide water and wastewater services in the ACT.

ACTEW is disappointed that the Commission chose not to report that the consultants view of the effectiveness of the KPIs and the performance of the contractor was particularly favourable:

³² ICRC 2007A, p 25

³³ ICRC 2007A, p 25

Our assessment is that the KPIs are challenging and will require good management to maintain the current good performance. This is supported by the generally high ranking in service quality achieved by ActewAGL in benchmarking.³⁴

Rather, the Commission paid greater attention to the following statement in the consultants report regarding the qualitative measures for assessing efficiency improvements:

There do not appear to be any qualitative measures for assessing efficiency improvements achieved within the business and the information that has been available to the Consultants in terms of quantity, quality and timing has limited the ability of the Consultants to undertake this review³⁵

ACTEW is concerned that even though the consultants explicitly recognise that time constraints have limited their ability to undertake a comprehensive review, they are still willing to infer that ACTEW does not have qualitative measures for assessing efficiency improvements. ACTEW believes that in the circumstances, these findings have been given too much weight by the Commission.

The Commission's consultants also noted that "the measures and processes within the business to establish network operations efficiency with regard to reactive maintenance, planned maintenance and renewals have not been evident to the consultants and have been the subject of concern by the ACTPLA".³⁶ ACTEW believes that it has sufficient measures and processes in place to address these issues, and further discussion of these concerns is provided below.

3.3 Submission from the Technical Regulator

The Commission received a submission from ACTPLA in the latter's capacity as the Technical Regulator under the Utilities Act. ACTPLA's submission, in the words of the Commission's draft decision:

... suggested that a significant omission in ACTEW's submission to the ICRC is the lack of a strategic overview section addressing the trends and direction in asset performance. ACTPLA argued that this means that stakeholders are uninformed as to the detailed status of asset performance, and thus are unable to develop an appropriate renewal policy, measure outcomes against target performance parameters, compare performance against benchmark data, consider progress of data collection across the networks, conduct comprehensive strategic analysis, make trend comparisons over time, and consider trend comparisons against other utilities.³⁷

ACTEW agrees on the importance of asset performance measures, and of ensuring that network serviceability is maintained by a least cost mix of maintenance and renewals.

³⁴ MMA and WorleyParsons 2007, p 146

³⁵ MMA and WorleyParsons 2007, p 146

³⁶ ICRC 2007A, p 26

³⁷ ICRC 2007A, p 26

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Part of the price review process involves close attention by the Commission's consultants to the operation of ACTEW's asset management planning processes and their outcomes. Of the ACTEW's Asset Management Plan (AMP), the consultants commented:

The consultants note the rigour put into the latest AMP with regard to the management of the operational regime of the water and wastewater assets. The consultants have noted implementation [of] GIS data capture and management (ESRI), distribution network planning, development, augmentation, maintenance and operation (WASP), Project Management System (PMIS) and Works Management System (Water Works) to effectively manage and operate the assets. Although it is not fully transparent in the submission, the consultants believe that the rigorous implementation of these systems will provide efficient operation of the assets.³⁸

ACTPLA's submission raised with the Commission the possibility that asset performance was declining undetected by the current performance reporting and compliance standards. In this regard, ACTPLA provided the Commission with data that purported to show that the performance of the water supply network has been worsening for some years.

ACTEW has now had an opportunity to respond to the ACTPLA submission and maintains that the ACTPLA's concerns cannot be sustained in the light of more comprehensive data and understanding of the issues provided by ACTEW.

Assessing the asset management performance of any utility requires a detailed and complete understanding of:

- the assets involved;
- their performance; and
- the asset management strategy adopted.

ACTEW's view is that the Technical Regulator's submission reflects insufficient understanding of these issues and, further, that engagement with ACTEW/ActewAGL in the preparation of the ACTPLA submission could have overcome many of the submission's shortcomings in this regard.

ACTEW notes the Commission's intention to examine the issues raised by the Technical Regulator in greater detail following release of the draft decision to allow ACTEW to comment on the Technical Regulator's report. As a consequence, ACTEW has prepared a comprehensive analysis of the current asset management systems with specific responses to issues raised by the Technical Regulator. This has been provided to the Commission.

3.4 Service standard mechanism

In 2005, during the current regulatory period, the Commission conducted a review of efficiency and service standard incentive mechanisms. The Commission published its

³⁸ MMA and WorleyParsons 2007, p 146

final decision on the review in December 2005.³⁹ This final decision concluded that a service standard incentive scheme was not warranted, specifically noting that:

“...there was no evidence that the current level of service was significantly different from the efficient level of service, and that therefore it was likely that, if a service standard regime were introduced, the costs imposed in implementing the scheme would outweigh the benefits. The submission from ACTEW and ActewAGL concurred with this view.”⁴⁰

In the current draft decision, the Commission repeated the view from its Working Conclusions Paper that it did not believe a service standard mechanism was necessary “given that existing arrangements were ensuring that appropriate customer service standards were being achieved”.⁴¹ However, the Commission further stated that, pending the Commission’s further consideration of ACTPLA’s submission, the Commission will reconsider the matter in the final decision.

ACTEW has now had an opportunity to respond to the ACTPLA submission and, as discussed in section 3.3 above, maintains that the ACTPLA’s concerns cannot be sustained in the light of more comprehensive data and understanding of the issues provided by ACTEW. As such, ACTEW believes there is absolutely no reason for the Commission to change its views on the need for a service standard incentive scheme.

3.5 Efficiency carryover mechanism

The draft decision notes that the terms of reference for the review require the Commission to have regard to achieved efficiencies in service delivery and appropriate incentives for both ACTEW and the network operator, ActewAGL, to ensure ongoing efficiencies. It also notes ACTEW’s proposal that the Commission adopt an efficiency carryover mechanism to provide additional incentives for ongoing efficiency improvements throughout the regulatory period.

The Commission also recognises the deficiency in the current regulatory regime that provides a greater incentive for efficiency gains early in the regulatory period, but that the incentive diminishes to zero by the end of the period. However, the Commission dismisses the possibility of the introduction of efficiency carryover mechanisms of the type used widely in Australia and overseas on the basis of their shortcomings. In this regard, the Commission indicated to ACTEW that it would consider any scheme that ACTEW proposed “that was able to satisfy the desirable attributes of an efficiency mechanism in a better manner than existing schemes”.⁴²

In the 2005 final decision of its review of efficiency and service standard mechanisms, discussed above, the Commission concluded:

³⁹ ICRC 2005, Final Decision, *Review of Efficiency and Service Standard Incentive Mechanisms*, Report 16 of 2005, December

⁴⁰ ICRC 2005, p 5

⁴¹ ICRC 2007A, p xvii

⁴² ICRC 2007A, p 28

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... it is not necessary to have a defined scheme in the form of an efficiency carryover mechanism to induce the business to become more productively efficient. Instead, the focus may more appropriately be upon the developing guidelines and procedures for forecasting costs at the time of the price reset in order to give reassurance to the regulated business that, as part of the next regulatory price reset, it will be rewarded for achieving economic efficiencies above those expected by normal productivity gains.⁴³

The Commission went on to state:

As a consequence, the Commission is planning a review of its approach to forecasting operating and capital costs for the water and wastewater businesses. This review will commence with a discussion paper, to be released in the second half of 2006, followed by a final decision in early 2007.⁴⁴

ACTEW notes that the Commission has neither:

- developed guidelines to ensure that ACTEW will be rewarded for achieving economic efficiencies; nor
- released a 'final decision' relating to its approach to forecasting operating and capital costs.

ACTEW seeks the Commission views on these issues for the next period as they form a significant part of the Commission's argument for rejecting the efficiency carryover mechanism proposed by ACTEW.

⁴³ ICRC 2005, p19

⁴⁴ ICRC 2005, p21

4. Forecast operating and maintenance expenditure

4.1 Contractor margin payments

Of central importance to the sustainability of the current water and wastewater service delivery arrangements, the Commission has not yet approved the level of ACTEW's forecast payment to its utilities operations and management contractor, ActewAGL. Instead, the draft decision advises there will be no increase in the allowed margin, that is, in effect, a continuation of the existing arrangements from the 2004 decision.⁴⁵ The current level of payments fails, however, to take account of the additional risk transferred to the contractor with the signing in late 2005 (with effect from 1 July 2004) of a Utilities Management Agreement (UMA) between the parties.

In its major submission, ACTEW provided information that showed that the proposed payments to ActewAGL were within the benchmarks of equivalent asset management contracts. This information was not addressed by the Commission. In addition, the Commission's own consultants, McLennan Magasanik Associates and Worley-Parsons, found an increase from the existing margin levels to be acceptable.⁴⁶

ACTEW and ActewAGL are distinct entities. With regard to water and wastewater operations in the ACT, ACTEW gives effect to Government policy to protect the public interest in the Territory's extensive water and wastewater infrastructure and to ensure health, quality and environmental standards continue to be met. ActewAGL is focused on the delivery of services which meet the performance standards set out in its contract whilst providing returns to its partners. The UMA brings benefits in terms of economies of scope and scale, improved scrutiny of programs, specialisation of functions and more sensible risk allocation.

The ActewAGL distribution partners (ACTEW Corporation and Singapore Power) are entitled to a return with respect to the risks they accept, as well as on the physical and intellectual capital applied to the business. This was inherent in the model of service delivery developed in the ACT incorporating a public-private joint venture utility provider.

Furthermore, ACTEW, as a partner in the joint venture has no incentive to inflate this margin beyond a fairly determined market value (nor, in the longer term, to contract out asset operation and management if costs exceed those of performing the functions in-

⁴⁵ Despite supporting a continuation of the existing level of contractor payments, the modelled costs in the Commission's draft decision do not appear to allow any margin to the contractor.

⁴⁶ MMA, *Review of Capital and Operating Expenses for Water and Wastewater Services - Final Report*.

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house) since it retains cost savings in full while receiving only its half of the profits from the joint venture.

ACTEW previously brought to the Commission's attention the probity arrangements surrounding the negotiation of the UMA, including the appointment of a probity advisor and probity auditor, and development of a probity plan. Other regulators have considered the circumstances prevailing at the time the contract was negotiated in informing their view as to the reasonableness of the terms of the contract.

4.1.1 *The Commission's draft decision*

The Commission's views on this issue can be summarised as follows:

- ACTEW has not provided information on how margins will be applied;
- ACTEW has not quantified the benefits of the outsourcing relationship, nor demonstrated the link between any increased net economic benefits and the proposal to increase the size of the margin;
- A higher margin does not necessarily increase these benefits into the future.

While fully recognising the Commission's need to be satisfied on behalf of ACT water and wastewater consumers of the legitimacy and effectiveness of the arrangements in place, ACTEW questions why an issue of such central importance was not subject to specific focus in the Commission's issues paper for the review, in any of the Commission's discussion papers, or in its working conclusions paper. In contrast, service delivery arrangements were raised prominently and discussed at some length in ACTEW's major submission to the Commission.⁴⁷

In these circumstances, it would have been reasonable for ACTEW to assume that the Commission had recognised and understood the effectiveness of the arrangements, in part arising from their development along the lines recommended in its 2004 decision.

In arriving at its draft conclusions, the Commission has not addressed the relevance of much of the analysis in ACTEW's major submission of the operating efficiencies and other benefits derived from the UMA. The draft decision provides no comment at all on the evidence provided by ACTEW on the size of comparable margins in the operating contractor sector.

The Commission's approach to this issue in the draft decision has been to focus on the costs of maintaining the agreement and to seek substantiation from ACTEW of the countervailing benefits. The draft decision indicates that the Commission would be willing to receive "a more comprehensive submission"⁴⁸ from ACTEW on this issue.

⁴⁷ ACTEW 2007A, pp 77-89

⁴⁸ ICRC 2007A, p 49

4.1.2 ACTEW's response

In its draft decision, the Commission stated that it had no objection in principle to the application of margins on expenditure. However, it also commented that ACTEW had not attempted to quantify the benefits of the UMA and hence the Commission was not able to assess whether the benefits are equal to, or exceed, the cost of the relationship (including the margin and transactions costs).

ACTEW remains strongly of the view that the benefits of the UMA, including efficiencies secured in the form of scale and scope economies, risk sharing and other synergies more than outweigh the costs associated with the UMA. ACTEW is undertaking separate analysis in support of this claim. However, ACTEW also urges the Commission to review its position based on the arguments below.

The case for ACTEW's proposed contractor payments

The primary points to be made in relation to contractor payments are that:

- the extent of the margin allowed by the Commission in the current regulatory period must be seen as the absolute minimum acceptable given the establishment of the UMA since the 2004 decision. The UMA specifically allocates risk to the contractor in a way that the Alliance Agreement in force to that point did not. In addition, both cost risks and those of failing to meet service standards have increased with the more complex operating procedures and less predictable environment brought about by drought, climate change and degradation of catchments by fire. This increased risk requires compensation of the contractor to a higher degree than did arrangements up to 2004;
- the Commission's draft decision fails to address the information provided in ACTEW July 2007 submission (repeated further below) showing that the contractor margin is lower than the average of those paid to comparable contracting companies. This represents evidence of the market value of equivalent outsourcing arrangements and, as such, are an indication of the value derived from them;
- in terms of delivering benefits to the consumer, high powered incentives under the UMA have delivered efficiencies in the current period, including the development of improved asset management processes, innovative approaches to field services functions and savings in treatment services which demonstrate its effectiveness. Under existing arrangements, these efficiencies will be returned in full to consumers at the outset of the next regulatory period;
- the UMA continues to provide economies of scale and scope of operations, the underlying rationale for the establishment of the ActewAGL joint venture, that could not be delivered from ACTEW as a stand-alone entity. Available economies have been enhanced since formation of the joint venture through the addition of TransACT Communications and Ecowise Environmental as recipients of ActewAGL shared services.

The UMA is central to water and wastewater service delivery in the ACT. It provides the means by which standards of service are maintained, the public's interest in essential

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services is protected and efficient operation is promoted. To deny ACTEW the opportunity to recover efficient payments to its operating contractor unjustifiably reduces the return to the ACT community on its infrastructure assets and risks making the public private joint venture arrangements unsustainable.

Sources of efficiency

In its major submission to the Commission, ACTEW provided a list of sources of efficiency under the UMA. These are:

- the use of ActewAGL's common services across all aspects of the business, including corporate finance, regulatory affairs, meter reading, human resources and customer management services;
- sharing of knowledge and skills relating to customer management, asset maintenance processes;
- providing sufficient scale to retain technical skills relating to the operation of the business within ActewAGL;
- enabling a tighter focus by ACTEW on the core functions of asset ownership and funding, resource policy and strategic direction;
- driving better governance and accountability through increased scrutiny and more rigorous justification of proposals;
- delivering a more concentrated focus (by the contractor) on service provision, acquisition of asset management skills and exposure to market developments; and
- promoting greater capital market efficiency due to more effective allocation and transfer of operational risk.

Though tending to emphasise costs in the arrangements, the Commission should also be open to the significant benefits that have arisen since the establishment of the UMA. In the past, for example, the Commission has been directly critical of shortcomings in the asset management planning framework for the business. The processes within the UMA have seen such a framework adopted and tested in practice and through formal benchmarking (discussed in ACTEW's major submission). Such developments have been as a direct result of the commercial tensions placed on the contractor to produce a coherent and fully justified program of works. The benefits of this to the ACT consumer, though sometimes intangible, are very real. The Commission's draft report does not give sufficient credence to such developments.

Formation of the ActewAGL joint venture and the Alliance Agreement

The final report of the ACT Legislative Assembly Standing Committee on Finance and Public Administration in August 2000 identified the key benefits from a joint venture between ACTEW Corporation and the Australian Gas Light Company (AGL) to include:

- a reduction in the risk associated with energy trading for ACTEW's electricity and gas businesses;
- employee and shareholder benefits;
- employment security and enhanced opportunities for ACTEW employees

- delivery of synergies from the retail and distribution partnership for gas and electricity businesses.
- public interest protection, since ACTEW would continue to be subject to ACT legislative controls.

The ActewAGL joint venture was formed in October 2000. The potential for cost savings has been confirmed subsequently.

These have been identified as arising from anticipated synergies and 'best practice' cost savings associated with:

- delivery of gas, electricity and water to existing and new customers;
- the integration of network, retail and corporate services over time; and
- reduction in the overall cost to operate and maintain the water and sewerage business through appropriately structured incentive arrangements.

The original service management contract was the Water and Sewerage Managing Contractor Alliance Agreement (the Alliance Agreement). Under the Alliance Agreement, ACTEW as owner of the water and wastewater assets held all licences in relation to water and wastewater operations, while operational control of the assets was to lie with ActewAGL.

The majority of benefits that were intended to arise from the Alliance Agreement were in relation to the cost savings derived from the exploitation of operational synergies between ActewAGL Distribution and ACTEW. Savings under the Alliance Agreement were to be a significant part of the total cost savings resulting from the joint venture. The Alliance Agreement was intended to form the basis for a longer term arrangement, the UMA, discussed below.

The Utilities Management Agreement

Signed on 1 July 2005 with effect from 1 July 2004, the UMA between ACTEW and ActewAGL superseded the Alliance Agreement and in the normal course of events will run until 30 June 2019 (or the end of the regulatory period current at that date). The principles of the Alliance Agreement were used to develop the UMA, with the important addition that the UMA specifically deals with risk allocation, with each party accepting those risks it is best able to manage.

The duration of the UMA is divided into regulatory periods. The efficient costs, including contractor payments to ActewAGL, within the current revision of the UMA reflect the Commission's 1 March 2004 final decision. Renegotiation of the UMA will be undertaken following the Commission's final decision, now due in April 2008.

In advance of the forthcoming regulatory decision, ACTEW and ActewAGL agreed that the current contractor payments under the UMA were no longer appropriate given the greater level of risk, not anticipated at the time of the Commission's 2004 decision, accepted by ActewAGL as part of the UMA. Risks of cost overrun or failure to meet key performance indicators (KPIs) are underpinned by the greater complexity of operational decisions now faced by ActewAGL.

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Greater complexity in water harvesting and treatment, for example, has occurred as a result of the persistent hotter and drier conditions across Canberra's water catchments and the severe degradation of the historically pristine and reliable Cotter River catchment during the 2003 bushfires. Before 2003, a large proportion of Canberra's annual water needs arrived by gravity from Bendora Reservoir to the Mount Stromlo Water Treatment Plant. From there, the water required minimal treatment with no filtration before entering the reticulation network. Water from the alternative Googong catchment required both pumping and comprehensive treatment before entering the network. It was only when the annual inversion of water in the Corin and Bendora reservoirs caused turbidity and problems with manganese, and to augment peak demand in summer, that drinking water production transferred to the Googong facilities.

These developments necessitated major additions to infrastructure, including:

- the new treatment plant at Mt Stromlo;
- the Cotter–Googong bulk water transfer facility;
- the augmented Cotter Pump Station and associated facilities to allow water to be drawn from the previously mothballed Cotter Dam; and
- the Murrumbidgee Pump Station, off-take facilities from the Murrumbidgee River and associated ultra-violet treatment facilities at Mt Stromlo;
- the augmented Googong Water Treatment Plant, now capable of meeting average summer demand.

Given the new requirements for this infrastructure, as well as more irregular rainfall events, ActewAGL is faced with an entirely different optimisation problem, with correspondingly higher possibility that costs will differ from forecasts. During the next regulatory period, these measures will be supplemented by the new Cotter Dam and additional facilities for transfer of water direct from the Murrumbidgee River to Googong Reservoir.

Cost forecasts presented with ACTEW's July 2007 submission incorporate a forecast margin of 5% on the contractor's cost of operations and maintenance and 4% on the cost of capital projects. Both of these figures are in effect the maximum margins ActewAGL can expect to earn, given that they are subject to penalties for non-performance under a large number of KPIs.

Benchmarking of the margin

The economies that are achieved as a result of third party contracts are often difficult to quantify. Other regulators have compared the margins with the size of margins earned in comparable businesses as one proxy for the economies of scale and scope offered.

ACTEW drew upon recent work by NERA Economic Consulting on benchmark margins in the context of the Essential Services Commission's review of gas distribution businesses in Victoria. In that review, NERA, on behalf of Envestra, undertook a

benchmark analysis of the margins paid by Envestra against margins within similar businesses.⁴⁹

The payment of margins for contractors undertaking work on behalf of a regulated utility is not a new concept. As NERA highlights, a margin payment made in excess of the contractor's direct expenses is prudent if:

The contractor's expenses are lower than those that would be incurred by providing the service in house or through an alternative contractor. In this circumstance, the margin may be characterised as a return to the 'intangible asset' held by the contractor. The term intangible asset in this context refers to the 'know how' that allows the contractor to offer lower costs than the alternatives;

The contractor requires capital to provide the service (ie, capital that would otherwise need to be owned by the service provider) and thus is entitled to earn a margin which reflects the return on and of capital;

The contractor seeks to recover a share of costs that are common across multiple services it provides (eg, corporate overheads); and

There are expenses that cannot otherwise be directly passed through under the contract (eg, allowances for asymmetric risk).⁵⁰

The approach adopted under the UMA is to provide a fixed operating cost fee that recovers the direct costs of operating and maintaining the water and wastewater assets, and also includes a share of the costs associated with overheads attributed to the water and wastewater services. The margin in this fee reflects a return on assets employed to provide the operating and maintenance services, and in compensation for the risks associated with the UMA incentives associated with cost overruns and the operating costs exceeding expectations.

The average benchmark margin from those companies examined by NERA was 6% EBIT/sales. This average result arises from the actual level of margin paid varying with the extent of capital supplied by the business, and the cost advantage it can bring relative to the marketing in terms of scale, skills and uniqueness.

The table of actual margins used in the benchmarking exercise by NERA is reproduced below as Table 4.1.

⁴⁹ NERA 2007

⁵⁰ NERA 2007

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Table 4.1 Benchmark margins from the NERA Envestra study

	Company	Business Segment	2002 per cent	2003	2004	2005	2006
All infrastructure sample set – Mean = 5.7%	AGL	Agility	11.3	12.7	13.0	14.4	13.6
	Alinta	Asset Management	na	na	10.7	13.0	8.5
	Origin Energy	Networks	6.3	4.8	3.6	7.7	8.0
	Tenix Alliance		-0.2	3.2	1.0	-1.1	1.9
	United Group	Infrastructure	na	na	na	6.1	6.8
	Downer EDI	Infrastructure	3.5	4.4	5.6	5.6	5.7
	WorleyParsons	Power	na	na	33.6	11.1	14.4
		Infrastructure	na	na	6.5	11.4	6.8
	Transfield Services	Services	2.2	1.5	1.5	1.2	0.6
	United Group	Rail	na	na	na	6.2	5.2
		Resources	na	na	na	4.7	6.4
	Downer EDI	Rail	4.4	6.1	4.2	6.5	9.3
		Engineering	3.9	3.4	4.9	4.2	0.7
	Thomas & Coffey		-4.0	1.3	0.4	2.1	2.8
	WorleyParsons	Minerals and Metals	na	na	15.7	14.2	14.1
		Hydrocarbons	na	na	11.8	8.3	8.3
	Clough		na	-0.3	-1.2	-11.4	-2.0
	Sinclair Knight Merz		5.7	6.4	9.6	10.5	12.1
	KBR Holdings		6.3	13.1	-0.8	4.5	na
	Fluor Australia		4.4	-6.1	-10.0	na	na
	SMEC Holdings		4.6	5.1	3.3	4.7	7.3
	Bechtel Australia		1.7	-4.0	-0.2	0.0	na
	Hatch Associates		2.9	5.5	11.1	13.9	10.0
	Ausenco		na	4.7	10.0	9.2	12.2
	Lend Lease Corporation	P. Mgt and Construction	na	na	1.7	2.2	1.8

Source: NERA 2007, table 4.1, p 13

Calculated on the same basis as the NERA benchmarks in Table 4.1, margin payments under the UMA are forecast to average 4.3% EBIT/sales across the next regulatory period. This level of margin is below the average of NERA's *All Infrastructure* sample set of contracting businesses (5.7%) as well as significantly below that of NERA's *Distribution Infrastructure* subset (8.2%).

Incentive arrangements

The incentives for cost efficiency and service standard delivery placed on ACTEW are passed through to its operator ActewAGL through the terms of the UMA. There are two elements to this incentive regime:

- the use of penalty payments that are conditional on achieving agreed service performance standard levels; and
- the financial arrangements associated with operating the infrastructure, and delivering the agreed capex program.

The UMA details 146 services and 47 KPIs that relate to each service provision and business management. In relation to service standards, the UMA provides for the calculation of under and over performance payments, relative to the KPI, and calculated on a monthly, quarterly or annual basis, according to the individual KPI.

Over-performance can be used to counteract underperformance with some KPIs, however in the event that under-performance is present at the end of a reporting period, ActewAGL is required to make a penalty payment. The size of the penalty is based on the individual KPI, based in turn on the relative cost or importance of the particular KPI to ACTEW.

The financial arrangements embedded within the UMA also provide incentives for ActewAGL to seek cost efficiencies. The arrangements can be broken into two components: those relating to capex and those relating to opex.

For opex, ActewAGL is paid a fixed fee, based on the Commission's opex assumptions formulated as part of the previous regulatory review less the expected costs for ACTEW during the period. This means that to the extent ActewAGL is able to deliver the agreed services for a cost lower than the regulatory assumptions, it is able to retain the cost benefit by receiving the previously agreed fixed fee. Similarly, if costs exceed the fixed fee, then ActewAGL will have a lower profit. As a result of this risk, part of the fixed fee is a margin in excess of incurred costs, in part to compensate for the transfer of these risks from ACTEW to ActewAGL.

For capex, the arrangements are slightly more complex. There are two stages for efficiency gains to be achieved. The first is during the initial project design, where more detailed costs for a particular capital project are developed. ACTEW engages its own independent cost quantity surveyors to review all of ActewAGL's estimates in relation to each capex project. Where there are differences between these cost estimates, negotiation occurs around the agreed cost. If necessary, either party has access to dispute resolution mechanisms in relation to the capex cost estimate within the UMA.

Once the budget for a capex project has been agreed, there are incentives placed on ActewAGL to ensure that it is delivered within budget, and on time. The UMA incorporates a so-called painshare/gainshare incentive mechanism, designed to provide an incentive for ActewAGL to deliver a capital project under budget.

The painshare/gainshare mechanism works as follows:

- if the program is delivered under (or over) budget, then the difference between actual cost and budget is split equally between ACTEW and ActewAGL;
- the total sum of over or under budget costs or benefits is capped at 5 per cent of the value of the entire capex program.

This mechanism has the effect of creating a higher powered incentive for ActewAGL to deliver the capital program compared with the regulatory arrangements for ACTEW. Customers benefit from the cost savings achieved through the higher powered regime, compared to the circumstance where ActewAGL has a relatively low powered regime,

and therefore does not seek cost savings. The result in effect shares the cost saving benefits directly with customers.

The Commission's view in its 2004 price direction was that:

The funding of any gainshare would come from savings achieved by ActewAGL as part of its administration of the capital works program.⁵¹

In ACTEW's view, gainshare payments to ActewAGL, once made, form part of the efficient costs to ACTEW of driving lower capex costs than forecast. In the absence of some form of incentive, a contractor may well not strive for cost savings, and therefore the consumer and owner would be relatively worse off.

4.2 ACTEW contract management and strategic directions

4.2.1 *Contract management costs*

The Commission's draft decision

The Commission indicated that it believed ACTEW's contract management costs associated with the outsourcing of the Networks' operation and management under the UMA to be excessive and increasing in recent years, particularly ACTEW's direct costs associated with managing the UMA. In addition, the Commission used these costs to suggest that sufficient benefits were not being derived from the UMA to justify them. The Commission also stated that it assumed that contract management costs incurred by ActewAGL for the UMA would be similar to those of ACTEW.

ACTEW's response

ACTEW's contractor management costs are outlined in Table 4.2. A few observations need to be made about these costs. Firstly, a proportion of them relates to costs that would need to be incurred in the good governance of the business regardless of the means of service delivery; that is, they would occur in some form even if ACTEW operated all services in-house. This would apply to functions such as monitoring KPIs. Secondly, the remaining costs are incurred as a cost of choosing outsourcing of management and operation as the preferred means of service delivery as a trade off for obtaining the benefits (economies of scope and scale) discussed in section 4.1 of this submission.

⁵¹ ICRC 2003, p 75

Table 4.2 ACTEW UMA-costs in \$million (real 06/07)

Contractor Mgmt	04/05	05/06	06/07	07/08	08/09	09/10	10/11	11/12	12/13
Consultants	0.6	0.3	0.3	0.4	0.5	0.4	0.4	0.5	0.5
Water opex	0	0.8	0.3	0.3	0.3	0.3	0.3	0.3	0.3
Other expenses	0.7	0.2	0.1	0.2	0.2	0.2	0.2	0.2	0.2
Payroll expenses	0.9	0.9	1.0	1.0	1.1	1.1	1.1	1.2	1.2
Total Contractor Mgmt	2.1	2.2	1.7	1.9	2.0	2.0	2.1	2.2	2.3

With regard to the observed increase in ACTEW's direct costs associated with the UMA from \$160,000 in 2006-07 to \$485,000 in 2012-13, the Commission allowed only \$160,000 with an increase of 4% annually. This allowance by the Commission does not take into account the costs to ACTEW to properly manage the UMA, which were not fully realised/budgeted in 2006/07. The primary reason is an increase in the proposed requirement for consultants for auditing UMA compliance. To date, ACTEW has not conducted an audit of ActewAGL's compliance with the requirements of the UMA since the Agreement has only been in operation for a relatively short period. However, the UMA allows for up to three audits of ActewAGL to be undertaken in any one financial year. This is a critical component of ACTEW's strategy to ensure the long-term delivery of services by the contractor (ActewAGL) is assessed at arm's length by independent consultants. Of relevance, ACTEW has started the audit of LMWQCC apparatus which will include a team of multi-disciplinary consultants (waste water process engineering / chemical engineers, civil engineers, electro-mechanical and maintenance engineers) to measure compliance against the UMA. The cost for this audit alone is expected to be \$40,000 in each of the coming two financial years.

Additional audits will commence in 2008/09 and continue throughout the regulatory period. Due to the unprecedented cost increases being experienced in the water sector, the cost for these consultants is expected to increase at approximately 10% per year.

If ActewAGL proposes changes to the UMA, this may need to be reviewed for its technical validity by an independent arms length consultant. ACTEW may also wish to make a change to the UMA and may require independent substantiation. This is a minor allocation of ~\$10,000 per year.

In summary, the reason for allowing these amounts is for ACTEW to be able to continue to improve its management of the UMA at arm's length from ActewAGL with the assistance of highly qualified independent consultants. These costs have only been identified in the few years that the UMA has been in operation.

ActewAGL's UMA costs

On the second point regarding ActewAGL's costs, these were revised by the Commission's own consultants and are in fact considerably less than those incurred by ACTEW, contradicting the Commission's assumption (page 17 in the draft decision) that the management costs incurred by ActewAGL would be similar to those of ACTEW. ActewAGL's actual and forecast costs for the UMA are presented in Table 4.3.

Table 4.3 ActewAGL UMA-costs in \$million (real 06/07)

	04/05	05/06	06/07	07/08	08/09	09/10	10/11	11/12	12/13
UMA costs	2.1	0.8	0.7	0.5	1.0	1.0	1.0	1.0	1.0

Employment Costs

ACTEW Corporation employment costs have increased considerably from the previous regulatory decision. This has resulted from an increase in the number of staff to handle the major increases in water and corporate issues that ACTEW has experienced, plus the pressures of a highly competitive employment market. Staffing has increased from 13 to 18 staff with further increases forecast to deal with increasingly complex policy challenges.

In response to the current employment market, ACTEW has implemented a long term retention strategy for key staff resulting in an increase in employment costs of 6.3% per year. ACTEW believes that this is a responsible measure in the current environment.

4.2.2 Research and development costs

The Commission's draft decision

The draft decision emphasised the importance of regulatory scrutiny of proposed research and development (R&D) expenditure during the price determination process in order to ensure that customers' interests are being safeguarded. On that basis, the Commission requested information on ACTEW's proposed R&D expenditure.

The Commission advised that, upon receipt of ACTEW's detailed R&D proposal, it would consider the proposal as part of the final decision.

ACTEW's response to the draft decision

ACTEW raised the issue of R&D expenditure and the Commission's proposed treatment of it in its major submission. Despite full information on the program being available for scrutiny by the Commission's consultants during their detail review of forecast expenditure, no information on proposed R&D expenditure was requested. Nevertheless, as a result of the Commission's request, ACTEW provides the following analysis of its current R&D program.

ACTEW's current R&D portfolio

ACTEW undertakes R&D for the strategic, commercial and technical outcomes which are vital in the decision making processes that effect water quality and delivery as well as for generating new business, products, services and interactions. The direct benefits of the R&D program for ACTEW are:

- effective, accurate and reliable tools to assess and monitor drinking, wastewater and recycled water quality;

- Increased confidence in the HACCP risk management system on drinking water supply;
- improved understanding of various treatment processes and distribution systems; and
- identification of and assistance with opportunities for strategic growth for ACTEW.

ACTEW considers its investment in R&D to be a vital component of ensuring and developing faster and safer services for the supply of drinking water.

Examples of current R&D projects are the Cotter Reservoir macrophyte study and a suite of projects evaluating risks and technologies associated with the use of recycled water. The latter includes the development of liquid chromatography mass spectrometry (LCMSMS) analysis protocols to test for trace organics and endocrine disrupting chemicals (EDCs), bioassays for EDCs, biofiltration for the removal of EDCs, and a molecular toolbox for monitoring biofilms in distribution systems.

ACTEW will be required to undertake environmental impact assessment in the construction of the enlarged Cotter Dam. The macrophyte study will provide valuable information that would otherwise have to be collected via a more expensive consultancy type approach.

The decision to investigate in a water purification plant within the ACT is a positive step to enable ACTEW to provide a range of water resource products for a variety of end uses. Although recycled water is already used safely for irrigation within Canberra, it is important to ensure that any expansion of recycled water activities is accompanied by efficient, responsible and informed research to ensure that public health and safety is not compromised.

ACTEW is required to undertake to have certain analyses for volatile organic compounds in both drinking and waste water on a regular basis. Implementation of fully developed LCMSMS protocols for many of the analyses will provide much lower detection limits, better verification of results obtained by other methods, faster analysis times and lower costs.

The full list of research projects considered for 2007/08 with their justifications and benefits to ACTEW is to be made available to the Commission.

Budget for the regulatory period

The R&D budget estimates for the regulatory period are provided in Table 4.4.

Table 4.4 The estimated budgets for the R&D program 2008/09 to 2012/13

Financial Year	Cost (\$'000) nominal			
	Projects	Management	Memberships	Total
2006-2007	550	175	305	1030
2007-2008	540	200	363	1103
2008-2009	600	200	530	1330
2009-2010	770	200	530	1500
2010-2011	950	250	600	1800
2011-2012	1250	250	600	2100
2012-2013	1600	300	600	2500

Management costs refer to items such as travel to water industry conferences and association meetings, business and finance management, report preparation and the time associated with portfolio management.

Memberships costs include membership fees and required in-kind contributions for the following organisations:

- CRC for Water Quality & Treatment;
- eWater CRC;
- Environmental Biotechnology CRC;
- Water Environment Research Foundation (WERF);
- WateReuse Association; and
- American Water Works Association Research Foundation.

The yearly increases in budget, as shown in Table 4.4, are based on:

- annual increase of 4% plus expertise retention costs;
- increasing membership costs: CRC for Water Quality and Treatment converting to Water Quality Research Australia and a \$50,000 increase in membership, joining the Bushfire CRC (\$150,000), WateReuse (\$20,000) and WERF (\$20,000); and
- changes to project work in 2008-2009 and 2012-2013, focussing on drinking water health issues and catchment management as required under the Australian Drinking Water Guidelines.

R&D benchmarks

Benchmarking ACTEW's expenditure on research and development is difficult as many comparable utilities are reluctant to state their expenditure on R&D. Business expenditure on research and development for some water and general utilities businesses in Australia is shown in Table 4.5. It can be seen from Table 4.5 that ACTEW's R&D expenditure in total dollar terms is less than 25% that of some of the larger water utilities in Australia.

Table 4.5 Research and Development expenditure of Australian utilities

Organisation	As % of Operating Revenue					As \$ cash investment (\$'000)			
	00/01	01/02	02/03	05/06	06/07	05/06	06/07	07/08	08/09
Melbourne Water	0.61	0.82	0.63	0.57	0.68	3370	4041	3957	4213
SA Water	0.3	0.36	0.35		0.29		2500		
SE Water	0.08	0.16	0.38	0.41	0.42	1600	1600		
Sydney Water	0.19	0.25	0.28	0.23	0.21	3608	3580		
ACTEW				0.63	0.67		1030	1103	
Yarra Valley Water	0.05	0.04	0.05			0.77			
Goulburn Murray Water						0.5			
Barwon Water						0.2			
Hunter Water Corp									

In summary, ACTEW is confident that its R&D program provides important benefits to ACTEW and its customers such as faster, cheaper and better analytical methods, new products and services, new business opportunities, knowledgeable motivated staff who can provide world class scientific, engineering and environmental information, leveraging off the R&D monies to gain external funding and Australian and overseas exposure for ACTEW. The budget for the R&D program is well within the scope of that of other water utilities both within Australia and overseas.

4.2.3 Costs of administering water restrictions

The role of ACTEW's Water Conservation Office (WCO) is to ensure compliance with the ACT's mandatory Water Restriction Scheme and to provide information to the community on matters related to saving water.

The introduction of Stage 3 Temporary Water Restrictions (TWR) resulted in an influx of queries, reports and applications for exemptions. The WCO received approximately 7,500 phone calls during the 2006/07, processed over 6,000 exemption requests and issued 65 infringement notices. In early 2007, the WCO began preparing for the introduction of Stage 4 TWR and led an industry consultation program to address the concerns of affected businesses and industries and assist them to prepare for a ban on outdoor use of potable water. It also continued to liaise with bodies responsible for the highest levels of consumption within the ACT to discuss methods of decreasing total water use and identifying alternate water sources.

Water conservation officers participate in a number of community events such as Floriade, the Autumn and Spring Home Shows, the Retirement and Lifestyle Expo, Water Expo Family Fun Day and Industry Conference, and The Royal Canberra Show. The WCO also ran a successful series of irrigation workshops with more than 500 people attending workshops to learn about water wise gardening.

As part of a comprehensive public information campaign associated with Water Restrictions and Permanent Water Conservation Measures (PWCM), the WCO:

- advertised widely in local media;
- managed a hotline telephone service; and

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- promoted appliance rebates and water audit services available through the ACT Government's Water Efficiency Program.

ACTEW's major submission⁵² outlined expenditures for strategic direction associated with the WCO over the next regulatory period.

The Commission's draft decision

The draft decision indicated two concerns with ACTEW's proposed WCO costs. These were that:

- the 2007/08 base expenditure may be overstated; and
- the indexation of costs assumed no efficiency gains by way of a reduction in public awareness campaigns.

On the basis of these concerns, the Commission proposed reduced forecasts follows:

- \$1.2 million, in nominal terms, for the years 2009/10 and 2010/11 when only the PWCM are forecast to be in place; and
- \$2 million, in nominal terms, for the years 2008/09 and 2012/13 when TWR are in place.

ACTEW's response

A number of assumptions were required in the derivation of these expenditure forecasts due to uncertainty surrounding the water levels in ACT dams during the ongoing drought. These assumptions include:

- continued TWR operations in 2007/08 and 2008/09;
- the introduction, in 2007/08 and continuing in 2008/09, of Stage 4 TWRs never previously enforced in the ACT; and
- an easing of the water situation and return to revised PWCM in 2009/10, ongoing until 2012/13. No TWR have been assumed for those years; and
- the reintroduction of restrictions in 2012/13.

The Commission's proposal significantly undercuts ACTEW's cost forecasts which, considering the increased burdens expected to be placed upon the WCO for the upcoming regulatory period, could adversely impact upon the effectiveness of the ACTEW's performance in this important area.

ACTEW's actual and forecast expenditures on water conservation measures for the period 2006/07 to 2012/13 are outlined in Table 4.6.

Table 4.6 Water Conservation Office expenditure 2006/07 to 2012/13

\$ '000 nominal	2006/07 actual	2007/08 estimate	2008/09 forecast	2009/10	2010/11	2011/12	2012/13
PWCM	462	751	753	1,742	1,535	1,579	911
TWR	1,169	1,957	1,982	0	0	0	2,217
Total	1,631	2,708	2,735	1,742	1,535	1,579	3,128

⁵² ACTEW 2007A, p 132

ACTEW's estimated WCO expenditure for 2007/08 is approximately \$2.7m, up from \$1.6m in 2006/07. The 2006/07 water restriction costs were split between PWCM \$0.46m and TWR \$1.17m. Temporary water restrictions were introduced in November 2006 and therefore operated over only an eight month period in 2006/07, compared to an expected twelve months in 2007/08. In addition, the relatively sudden onset of restrictions meant that there were initial delays in the ramping-up of the program in 2007, resulting in a greater than expected proportion of the employment and advertising expenses being incurred 2007/08.

This increase in costs also reflects the growing demand for WCO services due to worsening climatic conditions and the prospect of an ongoing drought. Additionally, in response to the ACT Government announcements of October 2007,⁵³ further projects are required to be undertaken as of 2007/08, continuing into 2008/09. Specifically, these are to undertake reviews of PWCM and TWR and to develop a new Stage 5 restrictions level for addition to the existing Water Restrictions Scheme. The Government has announced that the review of PWCM and TWR should also include a program of community consultation, in particular on PWCM. These projects will proceed in addition to ACTEW's existing operations and as such, are expected to increase the costs significantly and involve recruitment of more staff for extensive national and international research, policy development, government liaison, community consultation and eventually a re-launched public information campaign.

ACTEW's experience from the 2005/06 process is that parallel reviews of PWCM and TWR are challenging, with the need for both significant resources and continued effective management of current water restrictions/conservation measures.

In addition to increased costs due to the reviews, employment cost increases in 2007/08 also reflect the understaffing experienced during 2006/07 when restrictions had to be introduced at short notice. The cost figures for 2007/08 and 2008/09 also include costs for capital necessary to outfit workstations for the additional staff.

In 2007/08, ACTEW has incurred considerable expenditure in planning for Stage 4 TWR. This level of restriction is unprecedented in the ACT and is expected to have a significant negative impact on the ACT community. Planning has required additional resources to cope with community/industry liaison and consultation, and development of public information material.

The discontinuation of TWR for 2009/10 to 2011/12 coincides with lower cost forecasts. PWCM will be reinstated, however, requiring substantial investment in communications and public re-education of the new measures, particularly for 2009/10. All forms of published material are due to be updated in 2007/08 and early 2008/09.

Given the program outlined above, ACTEW does not agree that cost savings are available in this critical program. Community awareness efforts will need to be

⁵³ ACT Government 2007, *Executive Summary: Next Steps to Ensure Water Security for the ACT Region*, September, p 16

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maintained and increased to counter decreasing goodwill toward restrictions brought about by long-term drought and water supply uncertainty. ACTEW will need to implement new initiatives to achieve this.

Further to the promotional requirements of changes to restrictions, ACTEW's experience has shown that in order for campaigns to be effective, a continued strong presence in the public arena is necessary. Innovative and adaptive public campaigns are a key component of ensuring the continuation of efficient water use as means for promoting water conservation. As mentioned in section 2.2 of this submission, such action would also be required to support proposed drought pricing initiatives.

In coming years, ACTEW intends to build on its consultation with industries affected by water restrictions. Initiatives to be developed include:

- best practice guidelines – similar business programs have been implemented by other utilities, such as Sydney Water and South East Queensland Water. ACTEW is building on the water use guidelines it has developed with the Motor Trades Association (MTA) in automotive-related businesses for each stage of restriction. ACTEW intends to work to develop similar agreements/guidelines for other industries and make these available for download from its website;
- turf watering benchmarking – ACTEW is intending to work with the Turf Grass Association and other relevant groups to develop a schedule of turf watering benchmarking. A review of PWCM and TWR can eventually utilise the benchmarks when determining water reduction targets and compliance monitoring regimes.

In view of the information provided here, ACTEW stands by its original forecasts for expenditure on the WCO and water conservation measures. ACTEW will provide further details at the Commission's request.

4.3 The Commission's use of operating cost benchmarks

ACTEW's is concerned that the Commission's analysis of operating cost benchmarks has used benchmarking comparators that do not reflect ACTEW's relevant peer group for the intended purpose.

The Commission begins its draft decision assessment of opex incurred by the contractor⁵⁴ by referring to a series of performance benchmarks published in the final report of its consultants⁵⁵ and covering overall opex performance in the areas. These were based, in turn, on benchmarking studies referred to by ACTEW in its major submission as examples of exercises undertaken in the current period to evaluate aspects of performance against best practice.⁵⁶

⁵⁴ ICRC 2007A, p 41

⁵⁵ MMA and WorleyParsons 2007, p 140

⁵⁶ ACTEW 2007A, Section 7.2.1 *Benchmarking activities*

The table reproduced by the Commission⁵⁷ ranks ACTEW in terms of highly aggregated performance in *Composite Unit Cost* and *Composite Service Levels* across activities, once again highly aggregated, of *Water operations composite*, *Wastewater operations composite* and *Overall composite*. The comparators used to rank ACTEW's performance in these areas are Brisbane Water, Hunter Water, Gold Coast Water and SA Water.

The draft decision also reproduces a second table from the consultants' report⁵⁸ comparing aggregate unit costs of provision of services against the same utilities as above across Water and Sewerage for the periods 2000/01 to 2005/06. The Commission notes that, while appreciating that there are many factors which impact on such comparisons, it is concerned about ACTEW's consistently high costs per property and it has taken these into account when reviewing ACTEW's costs.⁵⁹

In respect of both tables, the Commission's consultants correctly observe of the utilities chosen for comparison with ActewAGL that:

These utilities are listed in the UMA for benchmarking purposes although it has been pointed out [by ACTEW] that the type of benchmarking proposed and envisaged in the UMA is not a direct comparison of service indicators.⁶⁰

On this point, ACTEW would like to make it clear that the benchmark utilities in the UMA have been nominated precisely because they are recognised as leading Australian water and wastewater utilities. The purpose of specifying them in the contract is their use as reference points in the event of disputes over prevailing industry practices and service techniques. This constitutes an indication that ACTEW has a commitment to best practice in service delivery and to be recognised in the league of leading capital city and major provincial city players. However, for an assessment to be meaningful, ACTEW belongs, in terms of the size of its customer base and length of its networks, among the different group of smaller peer utilities.

It is also widely recognised that comparisons of total costs per property, as cited by the Commission and the consultants, are virtually meaningless as a means of gauging relative efficiency of operations between utilities. Significant differences in costs can be due to a number of factors including the performance of different functions, differing costs of water supply or sewage treatment driven by geography and hydrography, differing jurisdictional service standards and differing asset ages and condition.

Nevertheless, the Commission reached an overly simplistic conclusion that:

Based on the benchmarking it would appear that ACTEW in general incurred more operational expenditure than other utilities, in some cases significantly so.⁶¹

⁵⁷ ICRC 2007A, table 6.7, p 41

⁵⁸ ICRC 2007A, table 6.8, p 42

⁵⁹ ICRC 2007A, p 42

⁶⁰ MMA and WorleyParsons 2007, p 141

⁶¹ ICRC 2007A, p 41

This is a rather obvious but unhelpful conclusion based on the information in the table. ACTEW's view is that this information does not represent a valid basis for "concern" of a "trend" or indeed evidence of a "cost divergence" between ACTEW and other utilities⁶² because it does not take into account the various advantages that arise from larger size of operations in the comparator utilities used.

4.4 Treatment costs

4.4.1 The Commission's draft decision

The Commission decided to accept the recommendation of its consultants and impose a reduction in ACTEW's forecasts of opex for water treatment at the Mt Stromlo Water Treatment Plant (SWTP) and for sewage treatment at the Lower Molonglo Water Quality control Centre (LMWQCC).

In the case of SWTP, the consultants believed that the cost of chemicals appeared to be overstated by \$0.65/ML. For LMWQCC, the consultants noted that chemical unit costs increased between 2007/08 and 2009/10 from \$49/ML to \$67/ML.⁶³ The consultants also noted in the case of LMWQCC that a major augmentation is currently under way (expected completion in 2008/09) to meet future demand and to increase treatment efficiency with regard to nitrogen and ammonia removal. From this, they concluded that the expected treatment efficiency gains were not evidenced in the cost forecasts proposed by ACTEW.

ACTEW estimates the impact of these opex reductions to be \$0.906m (real 2006/07) for SWTP operations and \$3.603m (real 2006/07) for LMWQCC operations across the regulatory period.

4.4.2 ACTEW's response

ACTEW believes that both adjustments result from misunderstandings of operational requirements and urges reinstatement of the original forecasts in the Commission's final decision. The case for each is outlined below.

Stromlo WTP

The consultants and the Commission have incorrectly assumed a continuation of current costs per megalitre. The analysis needs to take account of the higher costs of using non-traditional sources. These costs are not reflected in current period actual costs

⁶² ICRC 2007A, p 41. Inspection of the data in the Commission's table 6.8 and the corresponding figures 5-15 and 5-16 of the consultants' report actually appears to ACTEW to indicate a *convergence* of ACTEW's costs with those of the other utilities, rather than a *divergence*.

⁶³ ICRC 2007A, p 44

since their use during the current period has been recent and minimal pending completion of UV facilities.

In its major submission, ACTEW provided the Commission with a comprehensive outline of additional costs to be faced in the next period as the result of the drought and the resultant recourse to less favourable sources of drinking water.⁶⁴ At the time when the SWTP was conceptualised and then designed, it was not envisaged that poorer quality water from the Murrumbidgee River would be accessed as a supply source. It was noted there that to cope with lower quality water, SWTP is undergoing an upgrade of treatment facilities including installation of an ultra-violet (UV) disinfection system and additional sludge handling facilities. It was also noted that these augmentations were driven by the introduction of facilities for pumping water directly from the Murrumbidgee River (the Murrumbidgee Pump Station and associated infrastructure). Operation of a UV disinfection system will significantly increase energy and maintenance costs while expansion of the sludge handling system will require a significant increase in chemical, energy and sludge disposal costs. Increased energy costs when sourcing Murrumbidgee water also result from required operation of a Dissolved Air Flotation and Filtration (DAFF) system.

The lower quality of Murrumbidgee water compared to ‘traditional’ Bendora or even Cotter reservoir water also requires the use of alternative coagulants, at further cost, as a result of seasonal temperature variations. The operational specification of the SWTP nominates its capacity at 250 ML/day when the water temperature is greater than 15°C, downgraded to 150 ML/day when water temperature is less than 5°C. Adjustments need to be made to chemical dosing applications between these two temperatures. Operation of the Cotter-Googong Bulk Transfer requires the plant to operate at higher volumes over the winter months when water temperatures are lower, hence the need to source alternative, more expensive treatment chemicals (poly-aluminium chloride in place of aluminium sulphate) to suit raw water conditions. In addition, chemical dose rates are set higher when Cotter and Murrumbidgee pumping commences and it takes some time to reach optimum dosing.

LMWQCC

The Commission’s consultants have misinterpreted the nature of the current secondary sewerage treatment system augmentation. They have assumed that the introduction of additional clarifiers and affiliated treatment units is intended to improve chemical efficiency. They are intended, rather, to allow continued compliance with environmental nitrogen and ammonia discharges and will in fact result in higher costs of operation.

Chemical dosing at LMWQCC is mainly associated with primary treatment (for example primary coagulation/flocculation using lime, ferrous and primary poly coagulants), which is flow-related. The other chemical used in the primary system is a dewatering polymer which is solids-related. Chlorine is also used to treat the final effluent.

⁶⁴ ACTEW 2007A, pp 147-149

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ACTEW notes that when the SWTP came into operation, the alkalinity of the potable water supply was increased approximately threefold. As a result, to increase pH at LMWQCC to meet the treatment process requirement, the lime dosage at LMWQCC had to be increased. This adds a significant additional solids load.

The current secondary treatment system is wholly biological, that is, no chemicals are added. The secondary treatment system upgrade will introduce a requirement for a new solids-driven chemical addition to the process via the use of methanol. Methanol is a relatively expensive chemical and ACTEW's budget allows for a staged increase in its use.

Energy efficiencies will result from better oxygen control due to additional clarifier capacity, however these savings will be more than exceeded by significant additional pumping requirements.

The actual rationale and characteristics of the secondary treatment system upgrade are set out below.

The business need for the upgrade is to have the capability at LMWQCC to comply with the Environmental Authorisation issued to ACTEW by Environment ACT under the *Environmental Protection Act 1997*. The plant must have the installed capacity to handle current and projected sewerage inflows appropriate to its design life.

The most tangible benefit from the upgrade will be in the effectiveness of the secondary treatment process by improving the ability to manage wet weather flows and to meet nitrogen limits in the Environmental Authorisation. The current Environmental Authorisation limitation is 2,100 kg/day. The augmentation is designed to produce 1,500 kg/day while the current nitrogen load is approximately 1,900 kg/day.

It is unlikely that cost efficiencies from operating expenditure at LMWQCC will be readily identified as process components and equipment are being added to the existing configuration, whilst the hydraulic load (throughput) on the plant will remain constant as it is determined by catchment influences. The current limitation on the plant is the secondary treatment system, which has a hydraulic limitation of around 850 litres/second (~ 75 ML/day). Flow beyond this has a direct impact on the biological process and nitrogen management, which in turn have operational and compliance impacts.

The secondary treatment system upgrade will remove the hydraulic limitation on the clarifiers, taking the plant capacity to 1300 litres/second (~110 ML/day). This is to be achieved by adding additional tankage and 3 secondary clarifiers (making a total of 8). Additional pumps (14 new), mixers (20 new) and 2 new transformers to support this infrastructure will increase the power load to the plant, thereby increasing energy costs. As mentioned above, methanol dosing will further increase operating costs. Whilst the

same operational staff levels will be required following the upgrade, there will be a need to increase maintenance staff.⁶⁵

ACTEW believes therefore that its forecast operating costs for LMWQCC should be reinstated.

4.5 Contractor finance and administration costs

The Commission's draft decision proposed a reduction in the forecast costs by approximately \$0.4m (in real 2006/07 dollar terms) over the five years of the regulatory period.

ActewAGL Finance and Administration project includes three main activities:

- All finance and administration labour for ActewAGL Water;
- Membership and in-kind services provided to Cooperative Research Centres; and
- management time and key staff involved with KPIs and UMA reporting and meetings.

The third of these, UMA management was the area of costs that the Commission's consultants identified as potentially overstated. ActewAGL's costs of administering the UMA contract are previously discussed in section 4.2.1 above.

The UMA Management project represents the varied labour input (inputs from numerous staff across ActewAGL Water) required to manage the UMA contract. Management of the contract includes activities such as:

- Management Project Control Group (PCG) meetings (ACTEW / ActewAGL representatives);
- Monthly KPI reporting;
- Monthly Finance Reporting;
- Internal Audit requirements;
- Capex Management;
- ICRC Submission preparation;
- Development and Maintenance of ACTEW Plans, including:
 - a Water and Sewerage Emergency Plan;
 - a Water and Sewerage Management Plan;
 - a Risk Management Plan;
 - an Asset Management Plan;
 - a Compliance Plan;
 - an Exit Plan;
 - an Operating Plan;
 - an R&D and industry Plan;

⁶⁵ ActewAGL will engage a fitter or non-tradesperson and electricians for the increased assets that are coming on line at LMWQCC and SWTP.

Submission

- a HSE Plan;
- a Water Quality Management Plan;
- Customer Services Plan;
- HR Management Plan.

In addition to the above activities there is considerable effort in identifying improvements to the process of managing the contract (for example, IT development, streamlined capex process improvements and improved collection of data). A reduction to this project would indicate a reduction to a fixed cost – labour input.

ACTEW believes that these are legitimate costs which result in better understanding and compliance by ActewAGL with its contractor obligations.

4.6 Wage and salary costs

4.6.1 *The Commission's draft decision*

The Commission states in its draft decision that it has concerns regarding the method underlying the assumed annual growth in wages of 5.45% proposed by ACTEW and underlying the cost forecasts of its major submission.⁶⁶ The Commission's major concerns were that:

- the method of calculating the growth figure as an average of that of the engineering workforce and others;
- ACTEW's backward looking method not taking into consideration the expected impact on wages of future events; and
- higher than average wage rates identified in a 2007 study by consultants Currie and Brown, commissioned by ACTEW.⁶⁷

As a result, the Commission adjusted expected wage increases in operations to 4.5% annually over the period. ACTEW estimates that this adjustment will reduce allowed opex by \$6.66 million (real 2006/07 dollars) over the five years of the regulatory period.

4.6.2 *ACTEW response to the draft decision*

ACTEW believes that the wages forecasts provided to the Commission in its major submission are derived by an appropriate method and reflect a detailed, forward looking approach to industry characteristics over the next five years.

Firstly, the Commission's description of the method used by ACTEW to calculate the average annual wage increase does not reflect the calculation undertaken by ACTEW. Instead of, as assumed by the Commission, taking sectoral wage growth (which includes engineers) and incorrectly averaging it with wage growth for engineering

⁶⁶ ICRC 2007A, p 43

⁶⁷ Both the Commission and its consultants mistakenly attributed the commissioning of the study to ActewAGL rather than ACTEW.

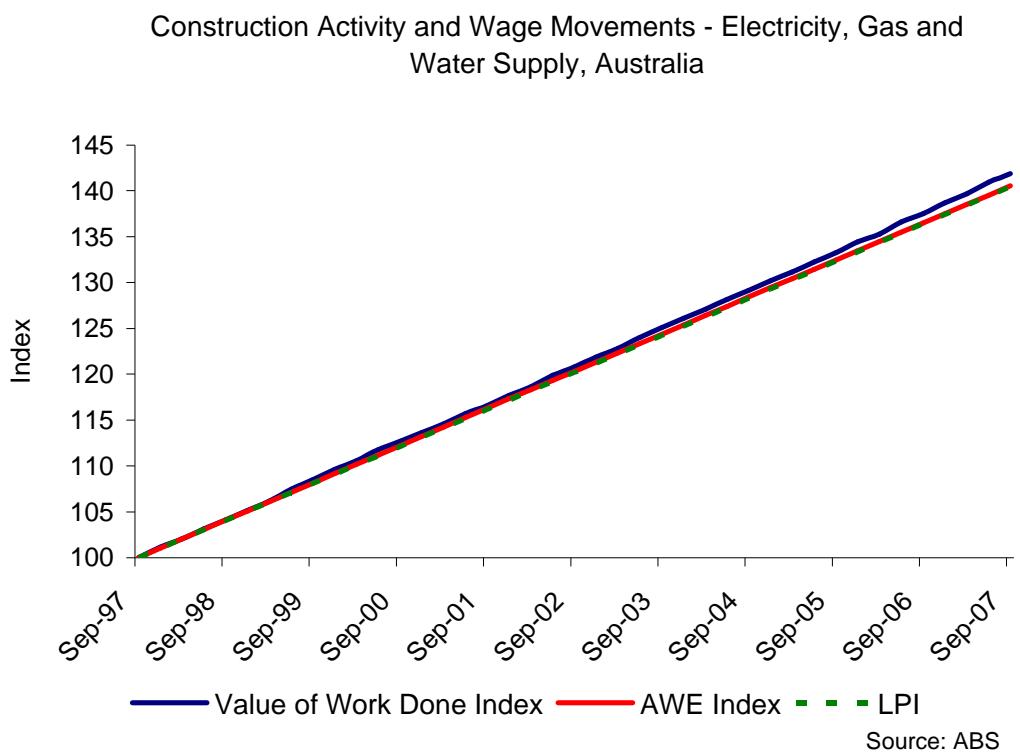
professionals, ACTEW used a weighted average of the forecast growth in general wages under ActewAGL's Enterprise Bargaining Agreement (EBA) (4.5%) and those for engineering professionals (6.4%). The weighted average of the two, given that the wage bill is split approximately 50:50 between engineers and general staff is 5.45% per annum.

The average increase applied to the base employment base was intended to buffer several key employment variables; namely:

- attracting skilled labour in an industry where skilled workers are scarce and the competition between industries (namely construction and mining) has impacted on wages growth being well above the average; and
- skill shortages nationally and in the ACT will continue to drive increased job design and redesign activity to compensate for gaps in expertise. In turn, this will lead to pressures for more aggressive remuneration review packages for existing employees. Particular job families, such as engineering, will continue to demand and achieve market premiums.

Secondly, the Commission must recognise that forecasting wages growth is a task that should not be done in isolation from historical trends and relationships with other market variables. ACTEW notes the strong positive relationship between the two key measures of wages, and construction activity in energy and water sector in Australia. This relationship is shown in Figure 4.1.

Figure 4.1 Comparison of Energy and Water Sector Construction Activity, Average Weekly Earnings and the Labour Price Index, Australia



The Construction Forecasting Council has forecast significant growth in energy and water sector construction activity over the next five years. These forecasts can be found in Table 4.7.

Table 4.7 Forecast Growth in Engineering Construction Activity, ACT

	2008-09	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15
Roads	55.22%	19.52%	6.84%	6.60%	7.14%	7.28%	7.29%
Electricity pipelines	44.31%	11.99%	5.06%	5.06%	8.59%	10.91%	12.12%
Water and sewerage	41.27%	12.91%	5.13%	10.67%	9.52%	8.68%	8.08%
Telecommunications	18.89%	9.98%	5.44%	4.81%	4.59%	4.28%	4.16%
Recreation and other	24.75%	-1.63%	1.38%	8.42%	12.80%	16.94%	17.80%

Source: Constructing Forecasting Council

Given a climate of strong growth in construction activity within the ACT, in particular in the electricity and water sector, ACTEW believes that 5.45% per annum in fact represents a conservative estimate of wages growth in the current, highly competitive labour market.

5. Forecast capital expenditure

5.1 The Commission's draft decision

As part of its review, the Commission needs to be satisfied of the prudence of current period capex, before it can be rolled into the regulatory asset base, and to assess the reasonableness and efficiency of forecast capex. The Commission engaged expert consultants for this purpose.

In its draft decision, the Commission summarised the findings of its consultants in relation to current period capex and were able to report that:

The consultants were generally supportive of the capital expenditure projects undertaken by ACTEW over the current period. The consultants identified no material issues regarding the selection and or justification of projects.⁶⁸

On this basis, the Commission was able to conclude that it was appropriate to roll all capex from the current period into the regulatory asset base.

With regard to forecast expenditure for the next regulatory period, the Commission noted that its consultants had “made no recommended adjustments to the forward capex programs submitted by ACTEW”.⁶⁹ However, despite this favourable recommendation, the Commission concluded that:

In general, while the Commission has accepted comments from the consultants that the selection of projects for the next regulatory period is appropriate, it [that is, the Commission] has a number of concerns about the forecast cost of the projects.⁷⁰

The Commission’s altered conclusions appear to have largely relied on two documents quoted in the consultants’ report. One of these documents is ACTEW’s own review that was initiated into the 2007/08 capex program by consultants Currie and Brown.⁷¹

While the Currie and Brown findings quoted by the Commission could be seen as moderately critical of ActewAGL’s work in a few areas (while quite positive in others), their context must be understood. ACTEW made this clear to the Commission’s consultant and they have been able to evaluate the use of relevant material on that basis. Currie and Brown was engaged by ACTEW as part of the validation process for the annual capex plan in its draft stages. Their criticisms were raised and fully addressed as part of specifically driving and achieving an improvement in that process.

⁶⁸ ICRC 2007A, p 61

⁶⁹ ICRC 2007A, p 63

⁷⁰ ICRC 2007A, p 63

⁷¹ Incidental to the argument here, both the Commission and its consultants mistakenly attributed the Currie and Brown work as a study on behalf of ActewAGL when it was, in fact, on behalf of ACTEW.

ACTEW would argue that this process instead points to both the value of the UMA in ensuring a complete and high quality verification process and also to sources of commercial tension between ACTEW and its operations and maintenance contractor, ActewAGL.

Yet ACTEW is now being disadvantaged by the inappropriate use of this report by the Commission. ACTEW believes that the basis for the Commission's conclusions needs to be separately substantiated or modified to reflect the position presented by ActewAGL to (and accepted by) the Commission's consultants.

Inconsistency between submitted costs

In the draft decision the Commission noted that there was a difference between ACTEW's major submission and its submitted template of \$376,000 for capital expenditure. The difference is related to upgrading of buildings which were not included in waste water in the major submission and the correct capital expenditure is therefore \$59,727 for 2008-09 (\$000, 2006-07 dollars).

5.2 Upgrades of Corin and Bendora dams spillways

5.2.1 The Commission's draft decision

The Commission indicated in its draft decision that it had considered ACTEW's and its consultants' comments and was broadly satisfied that the forecast capex for major projects was appropriate with the exception of expenditure on the Probable Maximum Flow upgrades to Corin and Bendora Dams. The Commission observed that its consultants had expressed concern that there was significant risk that the scope and cost of the project would change. As a result of an observed uncertainty surrounding the project, the Commission removed \$65.7 million from the forecasts.⁷²

The Commission noted, however, that it would clarify with ACTEW the exact amount and timing of the project to ensure that the correct amount had been removed, and, if the project were to go ahead, the amount to include in the allowed capex in its final decision.⁷³

5.2.2 ACTEW's response to the draft decision

Especially in light of new information outlined below, ACTEW believes that the capex allowance for Corin and Bendora spillway upgrades should be reinstated in full, as per its original proposal.

⁷² ICRC 2007A, p 64

⁷³ ICRC 2007A, footnote 24, p 64

ACTEW has commissioned a number of reports in relation to the risk assessment of Corin and Bendora dams. These risks have been on the Corporate Risk Register for some time, and the reports were commissioned in order to develop a plan to address any that might arise. The specific issues which ACTEW is concerned about are major floods at both dams and earthquake at Bendora Dam. There is significant technical information available as to why these particular risks have been identified.

ACTEW has made provision for this work in the 2008/13 Asset Management Plan (AMP). The provision, which is the best estimate (at this stage, before any design work has been done) for the cost of new spillways at both Bendora and Corin, is \$25 million for each, a total of \$50 million.⁷⁴

The Codes of Practice in the ACT require ACTEW to adopt the risk assessment process and outcomes set out in guidelines issued by the Australia National Committee on Large Dams (ANCOLD). ACTEW has commissioned studies on the flood size, dam stability and risk assessment of both Corin and Bendora Dams. Draft reports have been received and commented upon. Final reports were expected in late 2007, but there has been a delay by the consultant.

The ANCOLD guidelines process sets dam safety criteria (for example, the maximum flood a dam can withstand) based on risks, most notably risks to downstream populations. Changes in downstream conditions can therefore affect the risk rating of a dam, and hence the configuration of spillways and other design elements. This downstream risk issue is currently critical to arriving at a definitive decision on the Corin and Bendora spillway upgrades. Investigations to date have confirmed the view that urgent work will be required at both dams, namely the right abutment at Bendora and the interface between the spillway and dam core at Corin. This work is essential, with the total cost of both projects likely to be less than \$10 million (\$5m each).

Likely impact of the new Cotter Dam

The decision to build a new Cotter Dam came after the commissioning of the studies and, in ACTEW's view, further strengthens the need for the works originally proposed. In its review, ActewAGL identified that the construction of an enlarged Cotter dam has potential to alter the risk categories for Bendora and Corin, and thus make it more likely that new spillways will be required. The reason for this is that the concept surrounding the enlarged Cotter Dam includes adjacent recreational opportunities. The idea is that the Cotter precinct becomes "... enhanced as a hub for a diverse range of passive and active recreation."⁷⁵ Hence there are likely to be more people, more buildings and more permanent residents at the Cotter. The assessment made by the Commission's consultants only reviewed historic figures, and these will not be representative of the future Cotter precinct.

⁷⁴ These figures are project estimates only, that is, they are expressed in nominal dollars and have not been adjusted for construction cost escalation.

⁷⁵ This was set out in ACT Department of Urban Services 2003 *Shaping our Territory*, Final Report: Opportunities for Non-urban ACT, November

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In December 2007, as a result of its costing of Phase 1 of the Water Security Plan, ACTEW commissioned Mr Len MacDonald, a world expert on such risk assessments, to look at the potential for the Cotter development, both the enlarged Cotter Dam and its associated development, to change the ANCOLD risk rating for Corin and Bendora. He concluded that, in terms of both ANCOLD standards and risk-based guidelines, the Corin and Bendora dams could become deficient in flood capacity. Furthermore, increased development in the Cotter Reserve could adversely affect the flood safety of Corin and Bendora Dams. As a result he went on to recommend that further studies generate additional information on this important issue.

ActewAGL believes that it is important that the Commission strongly consider the conclusions of Mr MacDonald's report. Its interpretation of the report is that, while it is not absolutely certain, there is a good chance that the development of the enlarged Cotter Dam would result in work being required on the spillways of Corin and Bendora dams. This potential is high enough to warrant inclusion of the projects in the AMP.

ActewAGL will also be recommending to ACTEW that it:

- carry out the work on the Bendora right abutment and Corin spillway/core interface as an urgent, unplanned capex project;
- carry out the flood and risk studies for the enlarged Cotter dam, as recommended in Mr MacDonald's report, to allow resolution of the need for new spillways at Corin and Bendora. This is expected to take around 18 months, and will be incorporated in the design of the enlarged Cotter Dam;
- develop preliminary designs for the two spillways to allow more accurate costing and understanding of how the projects might be implemented. This is proposed for 2008/09.

5.3 Contractor payments

The Commission's draft decision proposes that payments to ACTEW's operations and management contractor, ActewAGL, be retained at their current levels of 1.4% (EBIT/sales) rather than being increased to reflect additional risks now borne by the contractor. This issue is discussed in full at section 4.1 of this submission.

5.4 Capital works cost escalation

Expenditure on construction in Australia has increased from 2000/01 to 2006/07 by 120% and is expected to peak in 2007/08. There are many drivers of this upswing, but the most important has been the strength of demand for Australia's mineral, oil and gas resources. In the Commission's 2004 decision the CPI was set as the basis for cost escalation. In its major submission, ACTEW presented evidence that the actual construction cost increases in ACT have been significantly above the CPI. Nationally, both RBA and Australian Institute of Quantity Surveyors (AIQS) have reported annual Building Cost Index (BCI) increases of 5% or higher for each of the past three years.

This is consistent with the 20.9% increase reported by AIQS to January 2006 for the Canberra building market.

Due to the price pressure in the construction sector, ACTEW sought forecasts of engineering costs indices for the next regulatory period and argued for an engineering construction price deflator by BIS Shrapnel. These data are reproduced in Table 5.1. Further analysis is being undertaken and is expected to be provided to the Commission in late February.

Table 5.1 BIS Shrapnel engineering construction price deflator

Year	2007/08	2008/09	2009/10	2010/11	2011/12	2012/13
Change (%)	7.9	5.5	4.0	3.2	3.6	3.8

Source: BIS Shrapnel (data obtained by ACTEW)

In the draft decision the Commission presented two other indexes by the Construction Forecasting Council (CFC) and the Pacific Economics Group (PEG), which were lower than the BIS Shrapnel for 2007-08 and 2008-09. PEG also criticised the BIS Shrapnel methodology. The Commission decided to accept the escalation factors proposed by ACTEW for all years except for 2007/08 where the Commission instead used 5.5% which is the rate ACTEW proposed for 2008/09. Therefore the Commission implemented a capital adjustment factor of 0.978 for the forecast capital expenditures for the entire regulatory period.

ACTEW notes that the Commission has accepted that prices in the construction sector are expected to increase by more than the CPI. However, ACTEW is concerned that the Commission has not accepted the BIS Shrapnel estimate for 2007-08.

A recent survey by the Australian Industry Group shows that the Housing Industry Association Performance of Construction Index in January 2008 rose by 0.9%, indicating that the pressure in the construction sector continues to be strong for 2007/08.

The national and ACT outlooks for water storage and supply are strong due to better knowledge of the requirements of drought and climate change and management of scarce water resources in this context. Water related activity is forecast to increase by around 40% in 2007/08 according to an interim report by BIS Shrapnel in January 2008. Over the 5 years to 2012 the activity level is expected to be 80% greater than the average level of activity over the five years to 2007. It is therefore very likely that the water supply and sewage price indexes will continue to rise over the next four years, possibly at a rate outpacing that of overall engineering construction costs.

ACTEW therefore believes that the BIS Shrapnel index for 2007/08 may well be a conservative estimate and encourages the Commission to use the BIS Shrapnel index for the entire regulatory period.

6. Return on capital

It is essential for any business to achieve a return on capital in order to be able to undertake investments for the future. During the regulatory period 2008-2013, ACTEW will undertake significant investments, in particular measures to provide further security to the region's water supply.

In its major submission ACTEW presented its case, supported by the comprehensive analysis, for a pre-tax real weighted average cost of capital (WACC) of 8.42%. The Commission's draft decision was largely in disagreement with ACTEW's proposal and in some instances requested additional evidence. In the draft decision the Commission determined a pre-tax real WACC of 6.55%, based on the parameters in Table 6.1.

Table 6.1 Weighted average cost of capital and input parameters, ACTEW's submission and ICRC's draft decision

Parameter	ACTEW submission	ICRC draft decision
Risk-free rate	5.87%	6.187%
CPI	3.17%	3.405%
Real risk-free rate	2.62%	2.682%
Market risk premium	7.0%	6.0%
Debt margin	1.30%	1.705%
Gearing	60%	60%
Gamma	0	0.50
Tax rate	30%	30%
Equity beta	1.05	0.90
WACC (pre-tax real)	8.42%	6.55%

ACTEW stands by its original submission, and believes strongly that a pre-tax real WACC of 6.55% is too low, taking into account neither the opportunity cost of capital nor the increased risk in ACTEW's operations. However, given that elements of the draft decision on WACC continue to reflect the same position taken by the Commission in its earlier discussion paper on this issue, the Commission is demonstrating a clear unwillingness to move on certain parameters of the WACC, despite ACTEW's contributions on these matters. ACTEW has therefore elected to focus its attention in this response on those areas that the Commission has indicated are open to further discussion. Table 6.2 summarises the main issues that are outstanding.

Table 6.2 Summary of WACC matters outstanding from the draft decision

Parameter	Issue
CPI	In respect to the Commission's preference for market methods, ACTEW proposes an alternative methodology in setting the CPI, considering the AER's and the ESC's approach of adjusting CPI for the bias in the CGS.
Real risk free rate	As indicated by the Commission, ACTEW proposes a new methodology in setting the real risk free rate, based on a similar method for setting the CPI to that used by the AER, but using the Fischer equation for setting the real risk free rate.
Equity raising costs	Based on the significant water security measures that will be undertaken in the next regulatory period (which were announced by the ACT Government after the ACTEW's original submission was lodged), ACTEW will not be able to finance the investments based on retained earnings. This will result in increased risk and gearing of the operation. If the Commission does not take this into consideration when adjusting the equity beta the Commission would fail to follow common market practices.

6.1 Risk-free rate

The Commission has indicated that it will calculate the risk-free rate as the yield on a hypothetical Treasury Fixed Coupon Bond with a 10-year maturity. ACTEW noted in its major submission that the Reserve Bank of Australia (RBA) argues that the yield on both indexed and nominal Commonwealth Government Securities (CGS) is a downward biased estimate of the true Capital Asset Pricing Model (CAPM) risk free rate. Dr Tom Hird and Professor Bruce Grundy have examined the extent of the bias further. This analysis was attached to ACTEW's major submission for the Commission's consideration.

In its major submission, ACTEW did not propose that Commission make such an adjustment to the specific parameters. Rather, ACTEW proposed that the Commission take into account the relevant evidence when dealing with uncertainty in *other* WACC parameters.

Draft Decision on the risk free rate

The Commission stated in its draft decision that it intended to continue using the hypothetical Treasury Fixed Coupon Bond for determining the risk-free rate despite the comprehensive analysis provided by ACTEW showed that there is a downward bias in CGS. The Commission did, however, state that it would examine this issue further.

The Commission disagreed that the downward bias should be taken into account when dealing with uncertainties in other WACC parameters on the grounds that this would require arbitrary adjustment of other parameters. Specifically, in section 9.3.3 of the draft decision, the Commission argued that "it is more appropriate to correct for any bias in the yields on CGS in the setting of the risk free rate rather than make an offsetting adjustment to the other parameter values of the WACC".⁷⁶

⁷⁶ ICRC 2007A, p 92

ACTEW's response

ACTEW notes that the Commission will continue examining the downward bias and that it will not be considered in dealing with other WACC parameters and accepts the Commission's view on this.

In defining the risk free rate ACTEW has used the same methodology outlined by the Commission itself in defining the basic Treasury Fixed Coupon Bond (as at 31 January 2008). However, ACTEW does not believe that its major submission analysis should be completely dismissed on this basis. In section 6.2 below, ACTEW presents a methodology for determining inflation and the real risk free rate to overcome the Commission's objection to the perceived arbitrariness of its originally proposed solution.

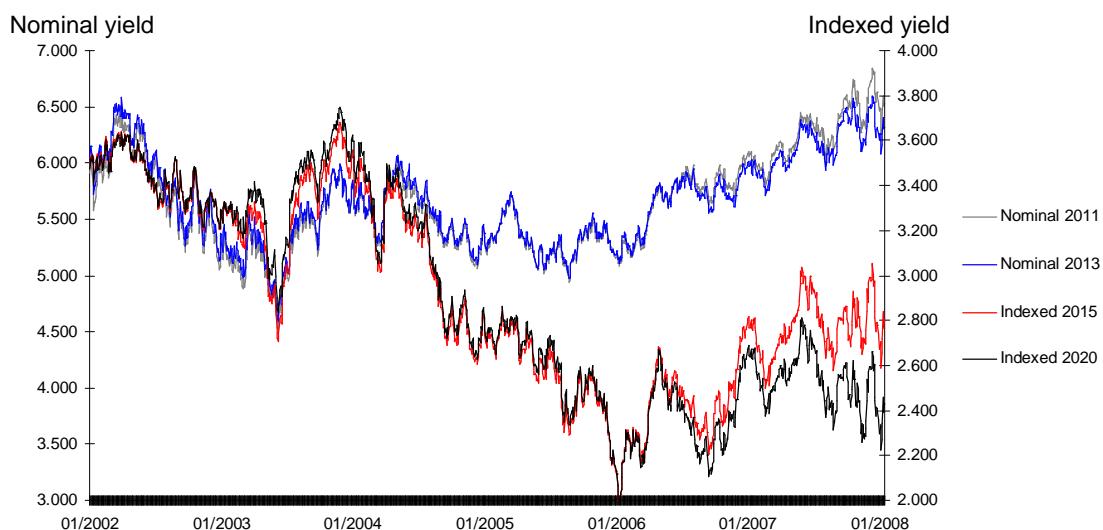
6.2 Inflation

The Consumer Price Index (CPI) is calculated using the Fischer equation as the difference between the nominal risk free rate and the real risk free rate. The Fischer equation is based on accepted theory and is therefore a non arbitrary method for calculating CPI.

$$\text{CPI} = (1+\text{Rf})/(1+\text{RealRf})-1$$

However, an important implication of the studies by Dr Tom Hird and Professor Bruce Grundy, and the RBA analysis, is that the difference in yields between nominal and indexed CGS results in an overestimate of expected inflation. As can be seen in Figure 6.1, the yields on indexed CGS have fallen dramatically between 2004 and 2008. It should be noted that the downward bias has actually increased further since the previous report by Hird and Grundy in 2007.

Figure 6.1 Yield on nominal and indexed CGS



Data: RBA, 2008-01-31

Draft Decision on CPI

In the draft decision the Commission noted that in the recent of Access Arrangements for the Victorian gas distributors, the ESC accepted that there was evidence that the implied yield on real government bonds does not provide an unbiased estimate of the real risk free rate. The ESC's solution was to derive the nominal risk free rate and adjust the observed yields for forecast inflation (to determine the real risk free rate). The ESC used 3% per annum as the forecast rate of inflation. The Commission stated in the draft report, however, that it was:

not convinced that this is a reasonable approach to adopt ... [as] the approach substitutes a parameter whose value is determined through market forces, the real risk free rate, for an arbitrarily determined CPI.⁷⁷

The Commission therefore decided to use the Fischer equation for estimating the CPI.

ACTEW's response

ACTEW appreciates the Commission's view that it prefers using market information to determine the parameters within the WACC in order to avoid relatively arbitrary determinations.

The new regulatory consensus that has emerged in Australia, however, is that inflation should be estimated directly due to the evidence in the downward bias in the indexed CGS. A report by Hird and Young which ACTEW will provide to the Commission shows inflationary expectations for the coming ten years estimated using the average of forecasts of well respected Australian forecasters. ACTEW notes that the ten year period is the same time frame as used by the Commission when estimating the risk-free rate and the real risk-free rate. This methodology also has similarities to the January 2008 final decision by the Australian Energy Regulator (AER) for SP AusNet Victorian transmission network. The only difference is that the AER used only the RBA as a source for their estimation of inflation.

In the draft decision the Commission stated that "the downward bias that appears to exist in the yields of indexed CGS should be corrected in the methodology used to determine the real risk free rate".⁷⁸ Since the real risk free rate and the CPI are calculated from the same equation, the only way to correct the real risk free rate is by adjusting the inflation and/or the risk-free rate. ACTEW notes that the AER (in its January 2008 final decision for SP AusNet) and the ESC (in its October 2007 draft decision for Victorian gas distribution businesses) have made such an adjustment to expected inflation.

The methodology set out by Hird and Young indicates that expected inflation over coming ten years is 2.53% per annum instead of the 3.405% per annum used in the Commission's draft decision. Therefore, based on the consensus in the market, a

⁷⁷ ICRC 2007A, p 87

⁷⁸ ICRC 2007A, p 88

consensus which is also supported by the ESC, ACTEW encourages the Commission to acknowledge that the downward bias in the CGS yields leads to an overestimation of the inflation by using the Fischer equation. This is also consistent with the approach adopted by the AER in its 2008 final decision for SP AusNet (expected inflation was determined to be 2.59% over ten years).

The Commission would need very strong grounds to form a view that no bias exists as this would be in direct conflict with:

- the Reserve Bank of Australia;
- the Commonwealth Treasury;
- the finance literature as summarised by Grundy and Hird;
- the empirical findings of Grundy and Hird;
- professional economic forecasters (such as Econtech and Access Economics) ;
- financial institutions (such as the major Australian banks) who all forecast expected inflation over the next ten years at less than 3% per annum; and
- the previously mentioned AER and ESC precedents.

If the Commission believes that its forecast of inflation is more accurate than that of the institutions listed above, it would need to describe and justify the basis for its judgement.

6.3 Real risk free rate

The real risk free rate is also calculated using the Fischer equation:

$$\text{RealRf} = (1+Rf)/(1+\text{Inf}+1)-1$$

In its Working Conclusions paper the Commission signalled that in determining the real risk free rate it would use the yields on Treasury Capital Indexed Bonds (TCIB) since they are adjusted for inflation and therefore represent the (real) return on a risk free investment. However, the methodology proposed here is the same as use for estimating the risk free rate and therefore does not take account of the downward bias in the indexed CGS.

Draft Decision on the real risk free rate

The Commission decided to apply the method it proposed in the Working Conclusions paper. As noted, the Commission stated that to correct for the downward bias of indexed CGS, the methodology used to determine the real risk free rate should be corrected.

ACTEW's response

ACTEW agrees with the Commission that the methodology used to determine the real risk free rate must be addressed. As described in the above discussion on CPI, ACTEW proposes that the Commission use the methodology outlined by Hird and Young for setting the inflation parameter. In so doing, the Commission can calculate the real risk free rate using the Fischer equation, where Rf is proxied by the yield on nominal CGS. ACTEW believes that using the Hird and Young methodology for estimating inflation

would be the most objective method for correcting the bias in TCIB relative to nominal CGS.

ACTEW notes that this does not correct for the downward bias in *nominal* CGS also identified by Hird and Grundy. In order to correct for this bias, the risk free rate in the Fischer equation would be proxied by the yield on nominal CGS plus 50 basis points (bp). ACTEW considers that this adjustment is appropriate.

6.4 Equity raising costs

Australian regulators have seldom allowed compensation for equity-raising costs or for the asymmetric risks faced by equity holders. In its major submission, ACTEW raised a strong case for the Commission departing from that position. Equity raising costs refer to the transaction-related costs associated with financing through equity. These costs depend on the form of financing, but are seldom below 1% of the value of equity raised.

By avoiding the distribution of dividends, a firm can improve its financial position without any equity or debt raising costs. Non-dividend companies are, however, usually companies that are newly founded, growth companies and/or companies in financial stress.

Draft Decision on equity raising costs

The Commission noted ACTEW's case for equity raising costs, but did not allow for them. ACTEW notes that the Commission stated that if investments are financed through retained earnings rather than the issuance of new shares, little or no additional costs are incurred.

ACTEW's response

ACTEW agrees with the Commission that a company can have the option of financing investments through retained earnings. However, during the next regulatory period ACTEW will be undertaking significant water security measures (not included in ACTEW's major submission) and that these would not be able to be financed through retained earnings. ACTEW will therefore have to rely on external sources, either by raising its gearing, or through equity.

In its major submission ACTEW proposed that this omission be taken into account when dealing with CAPM parameters. This is especially relevant following the ACT Government's announcement on additional water security measures.

6.5 Equity beta

The equity beta measures a security's relative market risk. A beta of 1.0 implies that the security has the same risk as the market average. A beta between 0 and 1.0 indicates that the risk of a business is less than the market average and a beta above 1.0 indicates that the risk is higher than for the market average. For firms listed on the stock

exchange, equity betas are normally calculated by analysing the specific stock's return versus the market's return. For unlisted companies like ACTEW, other methods must be used.

In its major submission ACTEW presented a three-factor model by Fama and French which is widely used by finance academics and professionals. The model is based on an exhaustive analysis of US stock return over an extended period and suggests that in addition to historical proxy equity betas, firm size and book-to-market (BTM) ratio are important determinants of required return. Specifically, the smaller a firm and/or the higher the BTM ratio the higher the return investors require before investing in it. If one attempts to explain historical returns relying only on a single 'equity beta' factor the most accurate assumption is that the equity beta is 1.0. That is, if one ignores firm size and BTM ratio then assuming an equity beta of one will more accurately explain historical return than assuming an equity beta equal to the firm's historical proxy beta. Analysis undertaken by NERA, and included in ACTEW's major submission, shows that applying the Fama and French three-factor model would involve an increment to ACTEW's required return to equity of 340bp.

In its major submission ACTEW argued, given its assumed gearing of 60%, that a beta of 1.05 would be lower than that of a similar geared Australian firm. The average level of gearing on the ASX is around 30%.⁷⁹ Using the Monkhouse leverage equation presented in its major submission, assuming an equity beta of 1.0 at a gearing of 60% is equivalent to assuming that the average firm on the ASX is 64% more risky than regulated businesses. Using an equity beta of 0.9, as the Commission did in the draft decision, implies that the average firm on the ASX is 80% more risky than ACTEW.

Draft Decision on the equity beta

The Commission noted ACTEW's arguments for an equity beta of 1.05, but argued that the trend among regulators is to adopt lower values of the equity betas, also referring to the Victoria distributors (2007) set an equity beta of 0.7 in a draft decision. In addition, the Commission also has given consideration to certainty and the current market within which ACTEW operates, particularly the drought and increasing concerns about the sustainability of water sources. The Commission decided to maintain an equity beta of 0.9 as in the previous regulatory period.

ACTEW's response

Setting an equity beta is difficult since there is no share price data to compare an index with. However, ACTEW does not agree with the Commission's view that operating a water and waste water business during a period of sustained drought, which has resulted in significant investments in water security measures, is less risky than the

⁷⁹ Allen Consulting Group (ACG) has quoted an unsourced gearing ratio for the ASX 200 on August 2004 of 30%. (Dalrymple Bay: Analysis of Proxy Betas, September 2004, report to the QCA).

market median. By setting an equity beta of 0.9, the Commission has overlooked changing market and environmental conditions.

In addition, considering the additional investment in water security measures during the next regulatory period, significant and unavoidable increased gearing that will incur in the coming regulatory period, ACTEW believes there is significant evidence that the equity beta should be set at 1.05. However, appreciating the difficulties in setting an equity beta for unlisted companies, ACTEW can accept a conservative equity beta of 1.0 implying the risk in ACTEW's operation is commensurate with that observed in the market.

6.6 Market Risk Premium

The market risk premium is the difference between the return on the market and the risk free rate of return. Historical estimates of the MRP earned in Australia over sufficiently long time periods tend to be bounded from around 6% to 8%, as shown in Table 6.3.

Table 6.3 Market Risk Premium Studies

Source	Methodology	Period	MRP
AGSM	Arithmetic average, incl. Oct 1987	1974-2003	5.8%
	Arithmetic average, excl Oct 1987	1974-2003	7.1%
Officer	Arithmetic mean	1882-1987	7.9%
	Arithmetic mean	1882-2001	7.2%
	Arithmetic mean	1946-1991	6.0-6.5%
Hathaway	Arithmetic mean	1882-1991	7.7%
	Arithmetic mean	1947-1991	6.6%
Dimson, Marsh & Stauton	Arithmetic mean	1900-2000	7.6%
Gray	Arithmetic mean	1883-2000	7.3%

Source: IPART 2006, Table A3.2

In its major submission, ACTEW presented evidence by NERA that there is an inverse relationship between the risk free rate and the market risk premium. That is, if the risk free rate falls, the market premium should rise. Keeping in mind the bias in the CGS yields and that the current yields on CGS (both indexed and nominal) are at historically low levels, investors will require the return (over the risk free rate) to be higher than if there was no bias in the CGS.

Draft Decision on the market risk premium

In its draft decision the Commission acknowledged arguments presented by ACTEW. However, referring to a draft decision on the Victorian Gas Access Arrangements and an analysis undertaken by Brailsford, Handley and Maheswaran, the Commission

contended that the quality of data used to estimate the equity premium declines as the length of the period increases. The Commission was of the opinion that data prior to 1958 should be treated with caution.

In relation to ACTEW's second argument regarding the bias on CGS, the Commission believed it was more appropriate to correct the setting of the risk free rate rather than making an offsetting adjustment to the other parameter values of the WACC.

The Commission finally considered a market risk premium of 6%, as in the last regulatory period, is appropriate.

ACTEW's response to the draft decision on the market risk premium

ACTEW accepts the Commissions standpoint that the downward bias in the CGS should be corrected in the setting of the risk free rate, which ACTEW discusses in Section 6.1 to 6.3. ACTEW is not convinced by the Commission's arguments that a market risk premium of 6% is appropriate over the next ten years.

6.7 Debt margin

The debt margin is the margin above the risk free rate that businesses must pay to be able to finance its operations through debt. The cost of raising debt for privately owned businesses exceeds the cost of debt for the ACT Government since the ACT Government is less likely to default on that debt. However the opportunity cost of capital is not reduced when raised by the Government. The only reason the ACT Government's cost of debt is lower is that the risk of default is lower, or, in effect, shifted to taxpayers. ACTEW's view is that the Commission's role should not be to enforce a subsidy from taxpayers to customers through an adjustment to the debt margin.

In its major submission, ACTEW argued that the Commission should set the debt margin based on a BBB+ credit rating obtained from CBA Spectrum and add debt raising costs of 12.5bp.

Draft Decision on the debt margin

The Commission noted that in a recent draft decision the ESC decided that the Bloomberg predicted yields provided a statistically better unbiased yield prediction than a CBA Spectrum. The Commission concurred with that decision and used the Bloomberg predicted yields to calculate the debt margin. The Commission used 12.5bp as an allowance for debt raising costs (as it did in its previous price direction).

ACTEW's response to the draft decision on the debt margin

ACTEW considers the approach to using Bloomberg's 10-year BBB predicted yield plus debt raising costs of 12 bp as reasonable based on the research undertaken by the Allen Consulting Group. The discontinuation of Bloomberg's 10 year BBB fair-yield index has however added some complexity to this calculation. In its final decision for SP

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AusNet in January 2008, the AER used an 8 year Bloomberg BBB fair yield index plus the spread between the 8 and 10 year Bloomberg A fair yields as an approach to best estimate of a 10 year BBB+ benchmark. ACTEW is however concerned that by estimating the spread of an 8 and 10 year A rated index, the spread will be underestimated since it is riskier holding a less favourably rated bond over a longer time. ACTEW therefore believes the Commission should also analyse the spread between a 6-year and 8-year Bloomberg BBB to see whether that spread is wider, and if it is, add the spread to the 8-year Bloomberg BBB index.

6.8 Imputation credits

Imputation credits affect the post tax return required by investors. Investors who receive a tax credit will accept a lower return compared with an investor who receives no tax credit. Therefore, it is necessary to account for the imputation system on a businesses return on equity. The equation for estimating the utilisation of imputation credits (γ) is:

$$\gamma = U \times \frac{IC}{Tax}$$

Where: U = weighted average of investors utilisation rate of imputation credits
 IC = the imputation credits assigned to the business during a period
 Tax = the amount of tax paid by the business during the period

ACTEW presented theoretical evidence in its major submission that γ is close to zero. There is also evidence that if γ is set at higher than 0.5, to remain consistent, the Commission must set the MRP higher than 6%. ACTEW submitted a report by Professor Stephen Gray which demonstrated these conclusions and argued that consistent with domestic empirical evidence, the value of γ is likely to be zero.

Draft decision on gamma

In the draft decision the Commission referred to a forthcoming paper by Handley and Maheswaran who, based on Australian Taxation Office data, have measured the percentage of imputation credits claimed against personal income tax liabilities to be 81% in 2001 to 2004. If 71% of company tax payments were distributed as imputation credits that would imply a gamma of 0.575. The Commission also referred to a paper by Beggs and Skeels stating that the imputation credits to investors have increased.

The Commission therefore did not accept a zero value for gamma and its draft decision set gamma equal to 0.5.

ACTEW's response

ACTEW is not convinced by the Commission's arguments on the appropriate value for gamma, and is particularly concerned that the draft decision cites only an unpublished article in support of the Commission's position.

6.9 Amended parameters of the proposed WACC

As indicated further above, the Commission's clear unwillingness to move on certain parameters of the WACC has caused ACTEW to refocus its attention in this response on those areas that the Commission has indicated are open to further discussion. On this basis, ACTEW has calculated an adjusted pre-tax real WACC of 7.6%, the parameters for which are summarised in Table 6.4. ACTEW has set 31 January 2008 as date for the determination of the nominal risk free rate that was calculated from observable market data.

Table 6.4 Adjusted WACC parameters

<i>Parameter</i>	<i>Value</i>
Nominal risk free rate	6.044%
CPI	2.53%
Real risk free rate	3.428%
Market risk premium	6.0%
Debt margin	1.705%
Gearing	60%
Gamma	0.50
Tax rate	30%
Equity beta	1.0
WACC (pre-tax, real)	7.60%

In ACTEW's view, this is a very conservative approach to estimating the WACC. A real pre-tax WACC of 7.6% equates to a nominal vanilla WACC of 9.47%. This is lower than the 9.76% nominal vanilla WACC set by the AER in its SP AusNet decision of January 2008. ACTEW urges the Commission to carefully consider this comprehensive analysis that secures a capital return that is not below capital market standards.

7. Regulatory asset base

7.1 Revaluation of the RAB

The Terms of Reference for the current review request the Commission to have regard to:

the commercial value of past investment by ACTEW or its predecessor bodies in infrastructure that continues to deliver services and is needed to sustain a high standard of service to all residents of the Territory, **giving particular consideration to an optimised depreciated replacement cost valuation** as applies in relation to other utilities.⁸⁰

In its major submission ACTEW set out detailed arguments for a revaluation of its regulatory asset base (RAB) using an Optimised Depreciated Replacement Cost (ODRC) approach. These arguments were summarised by the Commission in its draft decision, and it is important that they be restated:

- A replacement cost valuation necessarily ensures that entire economic costs of providing water are reflected in the valuation of the assets that are used to provide it. The current RAB valuation has resulted in a fundamental disconnect between water prices and the economic cost of service provision. As has been argued previously by ACTEW, new or innovative water sources or uses of wastewater will, as a result, be at a considerable cost disadvantage to those provided by existing infrastructure;
- the ODRC valuation approach has been widely applied by regulators when determining asset values for regulated businesses;
- the water and wastewater assets were purchased from the Commonwealth government. It is therefore appropriate for ACTEW's owners to earn an appropriate rate of return on the value of the assets that it purchased.

The Commission stated in its draft decision that it would not consider a re-determination of the RAB based on an ODRC valuation during the current review because, ostensibly, it "remained unpersuaded"⁸¹ by ACTEW's arguments on this issue.

ACTEW is disappointed, however, that the draft decision does not discuss ACTEW's first two arguments listed above. If the Commission is to fulfil its obligations under the terms of reference by 'giving particular consideration to an ODRC valuation', ACTEW believes that the Commission would need to address all reasonable arguments raised by ACTEW. Until this occurs, ACTEW is left to restate those arguments it has put to the Commission over the course of the current review process.

⁸⁰ Corbell 2007, sub-clause 5b (emphasis added)

⁸¹ ICRC 2007A, p 72

7.2 Reinstatement of the Cotter Dam

The Terms of Reference for the review also request the Commission to have regard to:

an assessment of the commercial value of ACTEW's regulatory asset base that gives particular consideration to all investment in the water network (including water and sewerage assets purchased or transferred from the Commonwealth in 1988 at the time of the creation of the ACT Electricity and Water Authority or otherwise gifted to it) **and appropriately reflects the reinstatement of assets returned to service as the result of changes to operating procedures during the current period.**⁸²

ACTEW has argued, and continues to argue, that the Commission has not included the value of the Cotter Dam in the current valuation of the RAB. The following provides ACTEW's interpretation of the Commission's views on each relevant matter:

- Even though Meritec optimised the Cotter Dam out of its 2003 ODRC valuation, this is of no relevance because the 1999 RAB was not valued using this approach.

ACTEW has argued for an ODRC valuation of its assets in line with Meritec's 2003 valuation. Therefore, the nature of this valuation is of particular relevance to ensuring a proper recognition of the replacement cost of all assets in service at that time.

- The 1999 valuation incorporated an allowance for the 'substantial growth to be accommodated by the existing infrastructure without significant further augmentation'.

ACTEW recognises this allowance but maintains that if an asset is not included in an asset base valuation, then the issue of its 'substantial growth' immediately becomes irrelevant. ACTEW is also surprised by the Commission's argument that this allowance included "excess capacity in assets which...were...not used at all."⁸³ ACTEW believes that a valuation of an asset base would rarely include assets that are 'not used at all'.

As the Cotter Dam was an asset which was 'not used at all', ACTEW believes that it was not included in the 1999 valuation (nor in the Meritec valuation). Pending the approval of an ODRC valuation, it would therefore need to be reinstated at its ODRC value from the time it was put back in service.

⁸² Corbell 2007, sub-clause 5c (emphasis added)

⁸³ ICRC 2007A, p74

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