

Expenditure Forecast Review for the Victorian Regional Urban Water Businesses

- WESTERNPORT WATER
Recommendations on Expenditure Forecasts
FINAL REPORT
- 14 March 2008



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1. Introduction and Background

Sinclair Knight Merz has been engaged by the Essential Services Commission (ESC) to undertake an independent review of the expenditure forecasts provided by the following eleven Victorian regional urban water businesses as part of their Water Plan submissions for the 5 year regulatory period commencing 1 July 2008 and ending on 30 June 2013:

- Barwon Water;
- Central Highlands Water;
- Coliban Water;
- East Gippsland Water;
- Gippsland Water;
- Goulburn Valley Water;
- North East Water;
- South Gippsland Water;
- Wannon Water;
- Western Water;
- Westernport Water.

The key objectives of the reviews are to determine whether the capital and operating expenditure forecasts in the Water Plans are:

- Reasonable and prudent;
- Appropriate in relation to key drivers and obligations;
- Robust and justifiable (with adequate demonstrated supporting analysis and systems); and
- Deliverable over the 5 year regulatory period.

In undertaking these reviews, SKM's key responsibilities are to:

- Assess the appropriateness of the expenditure forecasts in relation to the key objectives of the review;
- Provide independent advice to the ESC regarding the appropriateness of the forecasts; and
- Where SKM's advice indicates that a proposed expenditure level is not appropriate, propose to the ESC a revised expenditure level.

The key outputs to be provided to the ESC in relation to these reviews are:

- Issues papers: 23 November 2007;
- Draft Reports (one report for each water business): 31 January 2008; and
- Final Report: 5 March 2008,
[or other date agreed with the ESC].

A draft report, presenting the review team's preliminary views on the proposed expenditure forecasts and the further work undertaken to clarify the issues identified in the Issues Paper, was submitted to the ESC for the various businesses between late January and mid February 2008. The Draft Report, including preliminary recommendations, was made available to the relevant regional urban water business for its review and feedback. Westernport Water provided a written response and a further meeting and discussions with the business were undertaken to clarify any remaining issues, to ensure any factual errors or misinterpretations were corrected and to help the review team formulate its final recommendations.

This Final Report, which constitutes the third key output of this review, presents final recommendations on adjustments to be made to the operating and capital expenditure forecasts from the review.

1.1 Report Outline

The following layout has been adopted for this Draft Report:

- **Section 2** briefly describes the approach taken for the expenditure forecast review;
- **Section 3** discusses the key general issues that arose, common to many if not all of the water businesses, that provided a key focus for further more detailed review;
- **Section 4** provides background on the process used by the review team to form its view on the expenditure forecasts and identifies some of the key issues faced by the water business driving expenditure during the second regulatory period;
- **Sections 5 and 6** respectively address the issues identified for Westernport Water's capital and operational expenditure forecasts, and contain recommendations as to adjustments to be made to the forecasts and capital contributions, as appropriate.

2. Approach to the Review

2.1 Assessment of Operating Expenditure

The key item in assessing operating expenditure is the evaluation of the additional operating costs relative to actual operating costs incurred in 2006/07. These additional costs were assessed and changes recommended in order to achieve a productivity improvement during the second regulatory period. This is discussed in **Section 2.1.1** below.

2.1.1 Evaluating Productivity Improvement

The ESC has recommended that a productivity gain of 1% per annum, growth adjusted, should be assumed. In instances where the forecast level of the OPEX that is controllable by the business does not exhibit the desired level of productivity gain and/or there are increases above the assumed productivity, clarifying explanations for this will be sought.

The procedure proposed to test the increase above appropriately growth adjusted Business As Usual (BAU) operating expenditure is as follows. For each year of the regulatory period:

- 1) Establish a **Growth Adjusted Target BAU Opex** (BAU refer below for it's determination),
- 2) Compare the water business' **Forecast Gross Opex** for that year (as identified in its Water Plan) with the Growth Adjusted Target BAU Opex;
- 3) Establish the "**Variance from Growth Adjusted Target BAU Opex**" [Item (2) less Item (1) above]; and,
- 4) If the "**Variance from Growth Adjusted Target BAU Opex**" is positive (i.e. the Growth Adjusted Target BAU Opex is less than the Forecast Gross Opex), seek an explanation of the activities and the related expenditure comprising this difference.

The Variance from Growth Adjusted Target BAU Opex is a starting point for discussions and SKM will be considering the make-up of the positive variances and the justification and reasonableness of them with the water business. There will potentially be a variety of explanations.

Further elaboration of this proposed procedure and determination of the above parameters is provided below:

- The **Growth Adjusted Target BAU Opex** (BAU = business as usual) for a particular year will be determined by taking the actual gross operating expenditure for the business for the most recently audited full year's operation (i.e. Actual Gross Opex in 2006/07), subtracting the expenditure for licence fees, purchases of bulk water and the environmental levy, adjusting the remaining expenditure upwards in proportion to the growth in customer numbers that has

occurred since 2006/07 and then reducing this amount by the ESC’s stipulated minimum productivity gain of 1% p.a. year on year.

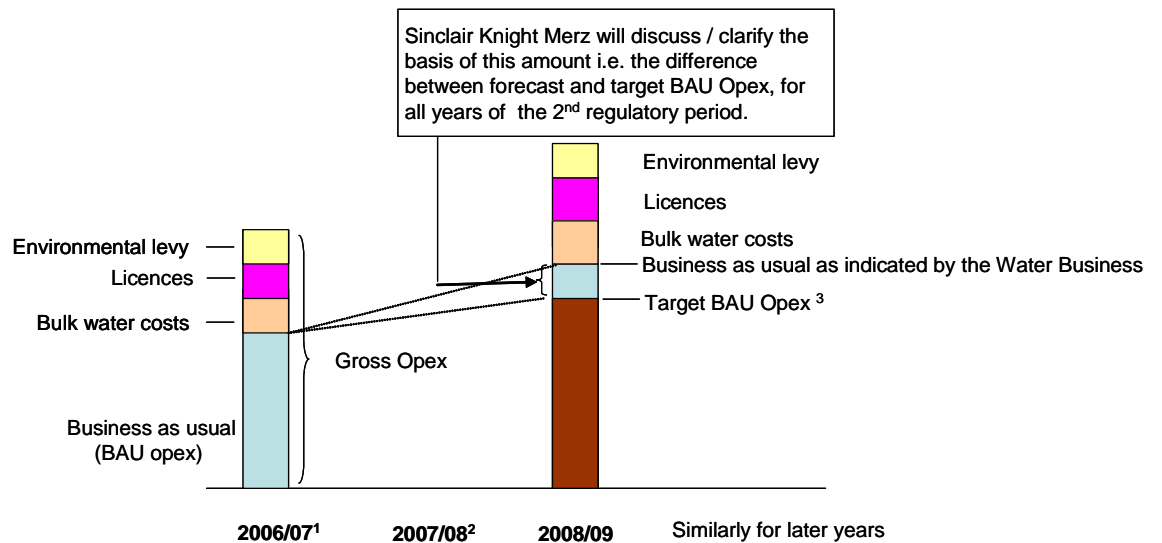
Thus the formula applied to establish the Growth Adjusted Target BAU Opex is:

■ $A = B * (C_{(year\ n)} / C_{(year\ 2006/07)}) * (1-0.01)^{(year\ n - 2006)}$ **Equation 1**

Where **A** is the Growth Adjusted Target BAU OPEX for year n;
B is the actual audited Gross Opex in year 2006/07 excluding costs for licence fees, environmental levy and water purchases.
C is the number of water supply customers (for the year indicated).

This is illustrated schematically in **Figure 1** below.

■ **Figure 1: Illustration of Growth Adjusted Target BAU Opex**



- Notes:**
1. 2006/07 was selected by the ESC as the base year because this is most recent year for which recorded data is available.
 2. 2007/08 is outside the 2nd regulatory period and will not be assessed in detail.
 3. Target BAU Opex is estimated from BAU Opex in 2006/07 allowing for growth in customer numbers and productivity gains of 1% per annum (cumulative).

2.1.2 Issues which the ESC will resolve

The ESC will review and resolve the amounts to be budgeted for Licence fees, Environmental Levy, and the tariffs applicable to bulk water purchases (if any). These issues thus fall outside the scope of SKM’s review.

It should be noted however that the forecast volumes of bulk water purchases fall within the scope of the SKM review. In so far as the assessment of bulk water purchases and the related expenditure impacts on Westernport Water's expenditure forecasts the review team has relied on the outcomes of the preliminary review of the demand forecasts undertaken by PWC.

2.1.3 Water Demand Forecasts

Information on the review of the demand forecasts undertaken by PWC for the ESC was made available to the SKM review team and was considered at least to the extent that the outcomes of that review were consistent with the demand forecasts influencing this expenditure review.

2.2 Assessment of Capital Expenditure

The process for reviewing capital expenditure forecasts is summarised below:

- A number of projects were selected, on a sample basis, but including any projects comprising a significant proportion of the total forecast capital expenditure;
- The selected projects were reviewed to confirm that the following criteria would be met:
 - **Appropriate in relation to key drivers and obligations** - with evidence provided of such drivers and in accordance with the Statement of Obligations that sets out the responsibilities of each of the Water Business;
 - **Robust (with adequate demonstrated supporting analysis and systems)** - as may be demonstrated by a report which clearly enunciates the problem faced by the water business, and sets out the analysis undertaken of the options to resolve that problem and identifies the preferred solution. Evidence may also be sought to demonstrate that the preferred solution falls within the overall strategy adopted by the water business.
 - **Deliverable over the 5 year regulatory period.** Usually evidenced by a Gantt chart, or similar detailed program, demonstrating that the key activities comprising the delivery of the project from planning to construction have been identified and thought through, and assigned an appropriate sequence and duration.
 - **Reasonable Cost Estimate.** The cost estimate is well supported either by a schedule of quantities using typical rates currently being experienced in the industry, or compare favourably with other similar projects or preferably both of the above.

3. General Issues

3.1 Issues Identified for Capital Expenditure

3.1.1 Pressure on Resource Availability

Expenditure on capital works in the Victorian water industry, based on data provided by all (metropolitan and regional) the water businesses in Victoria is expected to increase dramatically as shown in **Table 3-1**.

- **Table 3-1: Historical and Forecast Total Capital Expenditure in the Victorian Water Industry**

	1 st regulatory period			2 nd regulatory period			
Year	2006/07	2007/08	2008/09	2009/10	2010/11	2011/12	2012/13
Expenditure (\$M / year)	950	1,680	2,800	3,220	2,150	1,000	820

The aggregate capital expenditure levels for the Victorian water industry are forecast to increase steeply from current capital expenditure levels in the first three years of the second regulatory period and then decrease but remain high for the final two years of the regulatory period. This is expected to place great pressure on available resources - in the water businesses themselves, the consulting sector and the contractors, especially in the first three years of the second regulatory period (RP2). Although this pressure may be mitigated somewhat as some of the large projects, such as the proposed Sugarloaf Pipeline for Melbourne, may not consume such large amounts of resources as the costs of those projects alone may indicate, the pressure is nevertheless expected to be severe. Furthermore, it will be exacerbated by high to very high workload levels in other infrastructure areas such as transport and in the mining sector. A positive aspect is the constructor resources coming off some of the big road projects currently nearing completion (e.g. Eastlink).

The limitations on pipeline supply, particularly steel pipeline, is a particular constraint facing the industry at present requiring businesses to place orders early or face price premiums for accelerated delivery.

In considering project deliverability and in reviewing the expenditure forecasts therefore the review team has considered the urgency of projects whose expenditure is forecast for the first three years of the second regulatory period and in some cases spread this expenditure and/or reassigned the expenditure to later years.

3.2 Issues identified in relation to Opex forecasts

The preliminary reviews of the Water Plans and the operational expenditure forecasts focussed particularly on items brought forward by the businesses to explain the Variance from Target BAU Opex. Effectively this comprised a list of activities where the costs are for new obligations, operating new infrastructure or increased costs for existing activities. In this way the major issues for each business were identified and formed the basis of the reviews producing the outcomes as outlined in **Section 6** of this report. In addition the following key issues were identified that required consideration in relation to some or all of the businesses.

3.2.1 Energy (Electricity)

3.2.1.1 Overview

Most water businesses have proposed **additional energy costs** throughout the regulatory period as a factor contributing to the explanation of the variance in BAU Opex. The following considers some of the issues relevant to this increased expenditure.

For a number of businesses, the current energy contracts with electricity suppliers were due to expire and be renewed with effect from around July 2008. In most cases the new agreements or contracts to cover the period beyond 1 July 2008 have not been executed. Consequently new tariffs were not yet established at the time of the Water Plan submission and the expectation was that significant increases throughout the regulatory period would occur.

The cost of electricity in 2006/07 generally ranged from about 5 to 13% of the total operational expenditure for regional urban water businesses in Victoria.

The water businesses, based on broad information provided to them from various sources in mid to late 2007, have in their Water Plans submitted variously put forward real increases in electricity costs over the second regulatory period ranging from

- No or minimal provision for real electricity cost increases relative to 2006/07 excluding new demands (e.g. Goulburn Valley Water, Central Highlands Water), to
- Substantial real electricity cost increases of up to 100% relative to 2006/07 (e.g. Barwon Water, Wannon Water). Such cost increases were a combination of predominantly price effects but also demand effects and other relevant impacting assumptions.

The review team notes that prices in the electricity market (and specifically the wholesale market) have moved considerably since the submission of the Water Plans and continues to have some volatility. However it is clear that the electricity prices have fallen considerably and reconsideration by the water businesses of this issue is appropriate.

The review team also notes that the current electricity contracts were for a three period and the negotiations for these were undertaken in circa early 2005 with effective operation from 1 July 2005. The base year of 2006/07 sits in the middle of the contract period.

In response to the Draft Report most businesses took further advice on the potential real increases in electricity costs. Notably, following provision of the Draft Reports to the respective water businesses, North East Water and Central Highlands Water provided the review team with copies of advice they had received from independent specialists in this area (Key Energy & Resources and Marsden Jacobs respectively). One business is well advanced in obtaining firm electricity prices for the next three years.

Based on circumstances prevailing at late February early March, this advice generally proposed that a likely outcome on real electricity prices (and therefore costs) over the regulatory period would be a flat increase of some 19 to 24 % overall (with the wholesale cost component being the primary influencer of this). [NB: It needs to be confirmed that there are no nominal (versus real) effects to be resolved.]

In summary, and as detailed in the rest of this section, the review team considered that these views took a slightly “pessimistic” or cautious view of the likely outcomes of electricity price increases to be negotiated by the water businesses before 30 June 2008. The methodology used by these advisers is broadly consistent with the strategic overview approach adopted by the review team in assessing likely electricity price outcomes.

The review team has concluded and recommends that the following increases in electricity energy prices should be adopted for regulatory expenditure purposes:

- 2008/09 12% (*relative to costs incurred in the base year, 2006/07*)
- 2009/10 onwards 15% (*relative to costs incurred in the base year, 2006/07*).

The review team notes the differences of views that the water businesses have on real electricity price increases (and their cost impacts). As is natural the water businesses have been cautious from a business management viewpoint in formulating their positions and it is expected that this would be moderated when viewed from a regulatory pricing position and the extent to which such costs should be incorporated into a reset regulatory “BAU” expenditure base. These differences will only be resolved when the water businesses enter into and conclude their respective negotiations with electricity providers. The review team notes that most businesses intend to adopt a similar approach as for the current contracts and use the Strategic Purchasing Unit to negotiate prices.

The review team recommends that the ESC revisit this issue following release of its Draft Pricing Determination and in moving to its final determination. This is prudent because this decision (given its significant impacts) needs to be made with the best and contemporaneous information

when making its final determination and the water businesses should be well advanced in its negotiations for new electricity contracts that all will need to be entered into before 30 June 2008.

The review team has formed its views on real electricity price increases (underpinning cost impacts) using the approach described in the remainder of this section.

3.2.1.2 Proposed Increase in Energy Tariffs:

The components of the delivered cost of electricity (which are separated into peak and off-peak components for larger users) are:

- Wholesale forward price
- Profile cost (represents the extent to which the actual load shape is correlated to the NEM pool price over a day/week/month etc)
- Losses adjustment (for transmission losses (MLF) and distribution losses (DLF))
- Transmission Use Of System costs (TUOS)
- Distribution Use of System Costs (DUOS)
- NEMMCO (National Electricity Market Management Company) fees
- Ancillary services charges
- MRET (mandatory renewable energy target) costs
- VRET (Victorian renewable energy target) costs
- Retailer's margin.

The *transmission cost* and the *distribution cost* are the other major components of the delivered cost of electricity, and together with the *wholesale forward price* make up between **80 to 90 %** of the total energy price.

Transmission Use of System costs (**TUOS**) and Distribution Use of System Costs (**DUOS**) are both regulated costs and represent approximately **40 to 50%** of the overall energy price. These cost components of the total energy price are generally constant (i.e. are increasing at CPI) or are declining in real terms. [NB: This is different from 'standing offer customers' where real increases in TUOS and DUOS of up to 17% have been recently experienced.]

Of the balance of the components of the total energy price:

- The retail, which are negotiable, and other costs make up approximately 5 to 13% of the total energy price.
- MRET and VRET charges were minor in 2002 but are rising to become a more significant cost element as these programs transition up to full effect.

- Many of the other charges rise consequentially because they are often determined as a percentage of the other charges (e.g. margins, losses etc).

Impacts of Carbon Trading Scheme

From sometime in 2010 to 2012 a carbon trading scheme is expected to be implemented in Australia which will have a material impact on electricity prices but that impact cannot be estimated until the design of the scheme (notably the "glide-path" for emissions reductions) is known (expected to be known in 2009 or 2010). The review team has not considered the impacts of this increase here and have assumed that any material price impacts would be reviewed by the ESC later and, if appropriate, adjustments made.

Future Price Movements (Aggregate level)

The *wholesale forward price* has risen considerably recently. Some of the drivers for this are seen to be the tightening of the supply/demand balance and the drought (which impacts on the ability of some generators to operate). However the futures market sees the wholesale forward price declining. The *wholesale forward price* is the principle variable component of the cost of electricity and currently makes up approximately **40 to 50%** of the total energy cost.

The wholesale forward price of electricity may be obtained from the Futures Market. Although prices are volatile on this market it reflects current market perceptions of the future wholesale forward price. **Table 3.2** provides a market view of wholesale forward prices for Victoria at January 2008 (Draft Report stage), adjusted to real January 2007 prices by assuming a CPI of 2.5%, and averaged to cover financial rather than calendar years. The increase with respect to 2006/07 has then been calculated.

- **Table 3-2: Victorian Electricity Futures - Wholesale Forward Price only (Draft Report Stage, January 2008)**

Calendar year	Forward unit cost for calendar year (\$/MWh – real Jan 07)	Financial year starting	Forward unit cost for financial year	% REAL increase in wholesale forward price - relative to 2006/07
2006	41.89			
2007	43.13	July '06	42.51	
2008	59.54	July '07	51.34	21%
2009	45.95	July '08	52.75	24%
2010	43.52	July '09	47.73	5%

The market is anticipating that current steep prices will decline in future and this is already reflected in Queensland (see Financial Review article in Appendix A) where drought breaking rains

have occurred. There had been further movements in prices by the time of commencing preparation of the Final Report (from those at the Draft Report stage).

In forming its views the review team has been primarily informed by the information in the following:

- **Table 3-3** – which provides a view of the wholesale forward prices now (flat contract forward in nominal \$/MWhr as at 4 March, the date of commencing preparation of the review team’s Final Reports on the expenditure reviews) and which will provide a backdrop to the current electricity price negotiations of the water businesses; and
- **Table 3-4** – which provides an indicative view of the wholesale forward prices in late 2004/early 2005 (flat contract forward in nominal \$/MWhr) and which provided a backdrop to price negotiations at the time of entering into the current electricity contracts. [NB: The market appeared to be reasonably stable at that time.]

■ **Table 3-3: Wholesale Prices - Flat Contract forward as at 4 March 2008**

Wholesale Prices - Flat Contract forward as at 4 March 2008 (in nominal \$/MWhr)			
State	Calendar Year		
	2008	2009	2010
NSW	40.26	46.51	52.87
Vic	42.09	45.6	51.22
QLD	50.2	44.87	47.03
SA	69.8	60.51	50.03

■ **Table 3-4: Wholesale Prices - Flat Contract Forward circa 2005 contract negotiations**

Wholesale Prices - Flat Contract Forward circa 2005 contract negotiations (in Nominal \$/MWhr)				
State	Calendar Year			
	2005	2006	2007	2008
NSW	35.5	36.5	37	38
Vic	33	34	34.5	35.5
QLD	33	35	35.3	36
SA	39	41	41	42

3.2.1.3 Overall Approach:

In forming its view the review team has adopted the following overall approach:

- Establish from **Table 3-3** the “average” Victorian wholesale electricity price (flat forward contract) for the period of the current contract based on the generally prevailing market view of prices at the time of the negotiations for the current contract. This is assumed to be the average of the 2006 and 2007 calendar year prices, namely \$34.3/MWhr. Fortuitously this also happens to be the base year for the current expenditure review.
- Escalate this price to current day dollars (assuming only 2.5% p.a. escalation). This yields a price for comparison with current view of 2008/09 prices of \$36/MWhr.
- Compare this with the 2008/09 (average of calendar prices for 2008 and 2009 from **Table 3-4**, namely \$43.9/MWhr). This yields an effective real increase in this wholesale price of 22% for 2008/09 relative to 2006/07.
- This can be repeated for other years. For 2009/10 the point of comparison is with the conversion of the average 2009 and 2010 calendar year prices de-escalated to give comparison in real terms. This yields an effective real increase in this wholesale price of 30% for 2009/10 relative to 2006/07.
- Assume that the real increase for 2009/10 (relative to 2006/07) also applies for the later years of the regulatory period.
- Input these real wholesale price increases into a spreadsheet assessment for the real overall price increases taking into account all components of the price as indicated in **Section 3.1.2** and their real movements, noting that the wholesale price component is the most volatile and represents approximately 40 to 50% of the overall price.

[NB: The real cost increases are relative to 2006/07, not year on year cumulative. Choosing other states and/or a mix of states may give rise to a lower percentage increase, noting that this is a national market. The forward prices also probably include a higher escalation factor than has been assumed by the review team].

For any water businesses demonstrating completed contracts with electricity suppliers covering the second regulatory period the forecast expenditure for energy purchases was based on the tariffs contained in that contract. The review team also understands that contracts being entered into currently appear to be for a three year period.

Recommendations: The review team recommends, based on the above approach, that the following increases in energy prices should be adopted for regulatory expenditure purposes:

- 2008/09 12% (*relative to costs incurred in the base year, 2006/07*)
- 2009/10 onwards 15% (*relative to costs incurred in the base year, 2006/07*).

In making these recommendations the review team also:

- Notes that these increases do not include changes in demands (as these are dealt with separately for the respective businesses; and they do not include any future impact of carbon trading on future prices.
- Recommends that the ESC review the real electricity price increases expected on the basis of any further and better information available during the period following release of its Draft Pricing Determination and before the final determination.

The review team has applied these real increases in electricity costs consistently across all the water businesses.

3.2.2 Green Energy

The ESC indicated in its' Water Plan Issues Paper (December 2007) that many water authorities had forecast increases in operating expenditure due to implementing greenhouse gas (GHG) management strategies. Water authorities provided a number of reasons for implementing such strategies, including EPA requirements for licensed premises, statement of obligations requirements to develop greenhouse gas reduction strategies and the results of customer consultation which indicated that customers were willing to pay for (or contribute towards) carbon neutrality.

No water authority cited any requirement that set specific targets it was compelled to achieve. Within the regulatory period, reduction targets ranged between 0 percent and 30 percent, with some large new projects such as the Goldfields Superpipe targeting GHG neutrality (as mandated by government for that project).

The review team considered that GHG targets of the businesses should typically be in the range 10 to 15% (for the assessment of expenditure for regulatory pricing purposes). This is understood to be broadly consistent with government expectations at this stage.

The EPA outlines four broad categories of carbon offsets (EPA web site) including, bio-sequestration (e.g. tree planting), energy efficiency, renewable energy and greenhouse gas avoidance, capture and destruction projects. Water authorities who propose to reduce their greenhouse gas emissions and set themselves specific targets propose to undertake a range of activities that fit into these categories. The majority of authorities are proposing to review the energy efficiency of their assets in preference to buying green energy or carbon offsets. Some water authorities propose to buy green energy and carbon offsets.

The price of green energy and carbon offsets can depend on the "quality" of the energy/offset being offered. Some carbon offsets offered by the market are not accredited and even those that are accredited can be of a different "quality". A report produced by RMIT Global Sustainability,

“Carbon Offset Providers in Australia 2007” compares products offered by 15 different carbon offset providers. The report found that there is a significant difference in price charged per tonne of offset, with tree planting focussed providers charging approximately \$9 to \$13 per tonne of CO₂ offset and renewable energy oriented providers charging between \$20 and \$40 per tonne of CO₂ offset.

The review of greenhouse gas reduction strategies considered the process that water authorities went through to set targets, strategies and budgets. Budgets which resulted in an effective price per tonne of carbon offset consistent with the RMIT report were considered reasonable.

For the purposes of this assessment the review team considers that an appropriate reasonable benchmark cost for carbon offsets is \$20 per tonne of CO₂. It is acknowledged that the market is relatively immature and future prices may fluctuate.

3.2.3 Labour and staff costs

“EBA” real increases: Real increases (i.e. increases in excess of CPI) in overall employment costs were not generally considered as contributing to extraordinary growth in operational costs as they should be offset by improvements in productivity. Thus it could be argued that increased salary costs negotiated in enterprise bargaining agreements (EBA’s) above CPI do not form part of the Variance to BAU Opex.

It is acknowledged that high levels of employment nationally may serve to drive up labour costs particularly in areas of skills shortage. In current conditions it is expected that professional technical specialists would be expected to command higher percentage increases than the average, while others lower.

We note the government’s directive to its businesses that labour cost increases should be contained to approximately 3.25% per annum in nominal terms.

In summary, for this review labour cost increases of CPI + 1.25% were considered as reasonable. Increases above this are assumed to be absorbed in productivity offsets and not form the basis of increased operating expenditure above the Target BAU Opex. The allowance for a real increase of 1.25% p.a. (cumulative) on base labour costs was applied consistently across all water businesses.

The real labour cost increases of 1.25% p.a. (above CPI) are the only component of labour cost increases (fixed number of personnel) which are considered justifiable in terms of explaining the Variance from Target BAU Opex. The CPI increase does not represent a real cost increase and labour cost increases greater than 1.25% p.a. real are expected to have offsetting productivity gains - and neither have been passed through as justifying explanations of the Variance from Target BAU Opex.

New personnel resources: Costs for additional new operators of facilities completed after the base year (2006/07), or staff employed to meet new obligations imposed through the Statement of Obligations were however included, where appropriately justified.

Band increments: The review team notes that businesses have an obligation to pay band increments (and other) entitlements under appropriate arrangements. However in the context of this review for regulatory pricing purposes, such amounts are not an explanation of Variance from BAU. Thus in this assessment such amounts are expected to be funded from productivity improvements and/or already accommodated in the adjustment of Target BAU Opex through the growth rate adjustment and/or are already in the Base BAU Opex at a reasonable amount.

3.2.4 Labour on-costs

In addition to the direct salary costs for additional staff, and where appropriately justified, the on-costs of employment such as for superannuation contributions (9%), payroll tax (5.05%) and workers compensation (2%) and other items totalling approximately 19% were included in the costs allowed for additional staff. Overhead costs such as for accommodation were not regarded by the review team as contributing to the increased operating expenditure above the Target BAU Opex.

3.2.5 Limit of Materiality

In explaining the variance from Target BAU Opex a number of businesses included numerous items amounting to less than 0.2% of gross operating expenditure. The review team considers that such items would be part of the normal “swings and roundabouts” of variations in operating expenditure from year to year. Such costs are either not material and/or are covered by the allowance for growth (in setting the Target BAU and establishing the Variance from target BAU Opex) and/or are in the base year and/or a part of the “swings and roundabouts” of expenditure which occur from year to year where activities come and drop off.

These have generally not been considered or as justified for inclusion as part of the explanation of the Variance from Target BAU Opex over the regulatory period, unless very clearly identifiable as being related to new infrastructure or new obligations.

3.2.6 Demand forecasts

The forecast water demands submitted as part of the Water Plans have been reviewed on a preliminary basis by PWC. The impact of the preliminary review has been considered in the preparation of this Final Report (see **Section 4.1**).

3.2.7 Adjustments Principles

Two key principles were applied in establishing any adjustments to be made:



- Any expenditure that was clearly not accepted [e.g. any real increases in the businesses Water Plan electricity expenditure in excess of the electricity costs (price effects) greater than that determined as indicated in **Section 3.2.1**].
- The total of any adjustments should not result in an actual recommended regulatory expenditure in any year less than the Target BAU Opex. established as indicated in **Section 2**.

4. Westernport Water: Overview

The approach to the review of the Water Plan expenditure forecast for Westernport Water has been as follows:

- Identification of the key issues through the preliminary review of the Water Plan and associated information templates (submitted to the ESC in October 2007). Information on the key issues was summarised in a memorandum communicated to Westernport Water by the review team on 29 November 2007 (File Note titled “Westernport Water’s Water Plan – Operating and Capital Expenditure Review”);
- Further more detailed examination and investigation of the key issues through:
 - A meeting and discussion of the expenditure forecasts and key issues with relevant Westernport Water personnel on 10 December 2007;
 - Additional information provided by Westernport Water in response to the issues identified in the File Note and to queries arising out of the meeting on 10 December.
- Feedback received from Westernport Water on the preliminary recommendations outlined in the Draft Report dated 29 January 2008 and further discussions with Westernport Water to clarify any remaining issues through:
 - A meeting and further discussion of the expenditure forecasts and key issues with relevant Westernport Water personnel on 25 February 2008;
 - Further responses and the provision of additional information by Westernport Water in response to queries arising out of and discussions at the meeting on 25 February 2008;
 - Westernport Water’s written response to the Draft Report preliminary findings and recommendations, received on 1 March 2008.

4.1 Key Issues

Some of the key issues in relation to Westernport Water’s expenditure forecasts are:

- The estimated average annual price increase for tariffs in Westernport Water’s region, based inter alia on the CAPEX and OPEX forecasts submitted by Westernport Water is 4.67%. This estimate accurately matches the estimate shown in Westernport Water’s Water Plan 2008/2013 after allowing for the changed volumetric structure to be introduced in 2008/09, and is similar to its estimate prior to the changed volumetric structure (4.52% per annum);
- Westernport Water’s aggregate expenditure forecasts over the second regulatory period are \$29.65M for the Capex program and \$44.94M for Opex.
- The Water Plan provisionally assumes that Westernport Water will not be supplementing its water supply by drawing upon the proposed desalination plant at Wonthaggi, as insufficient information is presently available to make this assessment. The key project for the capital

works program is the proposed raising of the Candowie Reservoir to improve storage capability and increase its available water resources for supply which has been severely stressed during the recent and ongoing drought;

- Westernport Water has adopted targets related to sustainability including:
 - 23% level of water recycling by 2012/2013;
 - 25% reduction in per capita water use by 2015, increasing to 30% in 2020 as prescribed in government's *Central Region Sustainable Water Strategy*.
 - No targets have been set for greenhouse gas abatement or renewable energy and no investment is planned in this regard during the 2nd regulatory period;
 - Westernport Water plan to assess the need to recycle biosolids and notes that current stockpiles are not significant.
- The preliminary review of the water demand forecasts undertaken by PWC as part of the Water Plan review does not indicate any issues that would impact on the expenditure forecasts. Westernport Water indicated during the meeting held on 25 February that they anticipated a minor increase in customer numbers relative to the numbers forecast for the Water Plan (Westernport Water, 2007b, Ref #12), but that this was not material in the context of the estimate of Target BAU Opex.

5. Capital Expenditure (Capex)

Table 5-1 presents Westernport Water's forecast capital expenditure, both by asset category and by cost driver.

■ **Table 5-1: Westernport Water: Historical and Forecast Capital Expenditure**

Expenditure in \$ millions real (1/1/07)	FIRST REG PERIOD			SECOND REG PERIOD				
	2005-06	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13
Capital Expenditure								
Gross capital expenditure	2.84	5.52	5.23	2.80	3.95	16.32	4.19	2.38
Gross capex - business as usual	2.84	5.52	5.23	2.50	3.80	16.27	4.14	2.33
Gross capex - new obligations				0.30	0.15	0.05	0.05	0.05
Approved 1st period gross capital expenditure	4.23	4.87	12.99					
Average annual 1st period capex	4.53							
Average annual 2nd period capex	5.93			Annual 2nd period capex is on average 31% higher than the 1st period				
Breakdown of business as usual gross capex								
Water headworks	-	-	-	-	-	-	-	-
Water pipelines / network	0.04	0.33	0.30	0.92	0.06	0.06	0.78	0.09
Water treatment	-	0.68	-	-	-	-	-	-
Water Corporate	1.20	0.75	1.62	0.89	0.73	0.41	0.59	0.54
Water sub-total	1.24	1.76	1.92	1.81	0.79	0.47	1.37	0.64
Sewerage pipelines / network	0.30	0.61	0.44	0.38	0.33	0.23	0.23	0.23
Sewerage treatment	0.36	0.06	0.15	0.11	0.27	0.16	0.54	0.26
Sewerage Corporate	-	-	-	-	-	-	-	-
Sewerage sub-total	0.66	0.68	0.59	0.49	0.60	0.39	0.77	0.49
Bulk Water sub-total	0.94	2.96	2.58	0.21	2.06	15.41	2.01	1.21
Recycled water	-	0.12	0.14	-	0.35	-	-	-
Rural Water	-	-	-	-	-	-	-	-
Breakdown of BAU gross capex by cost driver								
Renewals				1.22	1.36	2.29	3.96	0.95
Growth				0.66	1.76	13.46	0.34	0.86
Improved service				0.03	0.09	0.02	0.02	0.02
Compliance				0.11	0.11	0.01	0.01	0.01
Government contributions				-	-	-	-	-
Customer contributions				0.49	0.49	0.49	0.49	0.49

5.1 Deliverability of the Capex Program

It is noted in respect of capital delivery performance that:

- average annual capital expenditure across the Water Plan period is forecast to be \$5.93 million compared to actual annual average delivery of \$4.18 million over the first two years of the current Water Plan
- there is a pronounced peak to the Capex profile in 2010/11 (associated with Candowie Reservoir raising); and,
- excepting for 2010/11 the proposed size of the capital program appears to be within the scope of that which has been previously delivered.

Westernport Water is aware of the high levels of capital expenditure forecast in the Victorian water industry and the pressure that this will place on available resources. It does not consider that this poses a threat to the delivery of its' capital works program as:

- the bulk of its' program comprises a single large project which it believes will attract significant earthworks contractors on account of its nature and size, particularly as



earthmoving contractors who are busy on major roadworks projects now nearing completion are expected to become increasingly more available;

- other projects (the bulk of its capital program) rely largely on local contractors. As evidence of this capacity Westernport Water advised of three projects involving the provision of 15-18 kilometres of pipeline executed in urgent circumstances recently that had been satisfactorily completed by the day labour contractor.

The review team remains concerned that Westernport Water, for its' major project, is competing for bigger contractors who currently have a focus on winning larger, more attractive bundles of work and/or big projects with the larger water businesses.

5.2 Key Projects

Westernport Water's Water Plan forecasts \$29.65 million of capital expenditure over the regulatory period. The top nine projects make up nearly \$ 23 million (over 77%) of this, and are listed in **Table 5-2**.

Following the Draft Report Westernport Water proposed an amended expenditure profile for the Raising of Candowie Reservoir that would shift the main expenditure into the final two years of the second regulatory period. This is shown, together with the other key projects in **Table 5-3**.

■ **Table 5-2: Westernport Water: Key Projects**

Capital Expenditure in \$ 000's real (1/1/07)	1st period	SECOND REG PERIOD					Total	% of total Capex
	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13		
Key projects								
Raising of Candowie Reservoir and associated works	-	200	200	13,500	-	-	13,900	47%
Water quality improvement (Ozone/ GAC)	-	-	250	1,500	2,000	-	3,750	13%
Land purchases (Candowie catchment)	-	-	-	-	-	1,200	1,200	4%
Bass River Augmentation	-	-	1,100	-	-	-	1,100	4%
Under channel pipeline	100	800	-	-	-	-	800	3%
Cowes Basin Reactivation	-	-	-	-	686	-	686	2%
Cowes WWTP Stage 3 upgrade	-	-	-	127	408	-	535	2%
Bass River Pipeline extension to Ian Bartlett WTP	-	-	500	-	-	-	500	2%
Desalination Option	-	-	100	400	-	-	500	2%
Total	100	1,000	2,150	15,527	3,094	1,200	22,971	77%
% of total Capex in the financial year indicated		36%	54%	95%	74%	50%		

■ **Table 5-3: Westernport Water: Revised Expenditure Profile for Key Projects (following Draft Report)**

Capital Expenditure in \$ 000's real (1/1/07)	1st period	SECOND REG PERIOD					Total	% of total Capex
	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13		
Key projects								
Raising of Candowie Reservoir and associated works	-	200	200	500	6,500	6,500	13,900	47%
Water quality improvement (Ozone/ GAC)	-	-	250	1,500	2,000	-	3,750	13%
Land purchases (Candowie catchment)	-	-	-	-	-	1,200	1,200	4%
Bass River Augmentation	-	-	1,100	-	-	-	1,100	4%
Under channel pipeline	100	800	-	-	-	-	800	3%
Cowes Basin Reactivation	-	-	-	-	686	-	686	2%
Cowes WWTP Stage 3 upgrade	-	-	-	127	408	-	535	2%
Bass River Pipeline extension to Ian Bartlett WTP	-	-	500	-	-	-	500	2%
Desalination Option	-	-	100	400	-	-	500	2%
Total	100	1,000	2,150	2,527	9,594	7,700	22,971	77%
% of total Capex in the financial year indicated		36%	54%	not applicable				

It can be seen that the bulk of capital expenditure forecast for the second regulatory period is intended to improve Westernport Water's water supply capacity and security. The proposed Raising of Candowie Reservoir, Bass River Augmentation, and Desalination Option are all schemes proposed to improve the water supply.

The review team considers that the strategy supporting the timing and scope of these schemes needs additional consideration. This is because:

- The Water Supply Demand Strategy (Westernport Water, 2007), which presents a strategy to secure the water systems until 2055, identifies the Bass River Diversions and Corinella Groundwater Scheme as preferred short term options, and the Melbourne Interconnection as the medium to long term option. Raising of the Candowie Reservoir and the desalination option were not assessed as part of the Strategy, as they had been assessed previously (Byrne, 2000 and GHD, 2002) and were not then supported (i.e. at the time the Water Supply Demand Strategy was prepared). The review team considers that the decision not to proceed with the pipeline for interconnecting to Melbourne's supply system has rendered the Water Supply Demand Strategy out of date and that an update of the strategy based on an incisive review and analysis of the options is required.
- The need for further augmentation of the supply during the second regulatory period is not clear to the review team. Westernport Water's Water Supply Demand Strategy (March, 2007) indicates that assuming a continuation of drought conditions the annual supply shortfall is projected to increase from the 2007 levels of 500 ML/annum to 800 ML/annum by 2015. However this can be made up from the Bass River Diversions and the Corinella Groundwater scheme whose combined supply capacity is indicated as being 1,600 ML/year.

Prima facie this seems to indicate that Candowie Reservoir Raising need not be implemented during the second regulatory period. However Westernport Water may have broader water supply objectives in terms of risk mitigation. Further work should be undertaken to clarify the need and/or timing of the Candowie Reservoir raising project.

Westernport Water indicated during the discussions on 25 February 2008 that the additional storage was required to extend the carry-over period during droughts. The unrestricted demand totals approximately 2,000 ML/year and capacity of Candowie Reservoir is about 2,200 ML. Thus the reservoir may be nearly emptied in a single (low inflow) year even when starting full. The additional storage planned, once filled, would extend this period to two or more years.

The review team also notes that the interconnection to Melbourne's water supply system was a key project in Westernport Water's plan for the first three year regulatory period and that this did not proceed. While there are many justifiable and prudent reasons why it did not proceed (some beyond Westernport Water's control), the lack of a firm, robust strategy to which there was broad



commitment was a factor. The learnings from that experience should be reflected in this Water Plan.

WPW response

Up until mid 2007 connecting to Melbourne Water was the Corporation's preferred strategy as included in the CRSWS and WSDS. The Corporation was well advanced with the detailed design to connect to Melbourne and would have been in a position to commence work over the 2006/07 summer. The circumstances of the 2006/2007 drought meant that the option detailed (and included) in the CRSWS and WSDS to connect to Melbourne was unachievable due to an inability to obtain an agreement from the pool of metro retailers for a water supply source from Melbourne.

A range of other options detailed in the CRSWS and WSDS (Bass River and Corinella Aquifer) were brought forward to address the 2006/2007 drought. To secure the benefits of these augmentation options the option to raise Candowie was revisited. This option was one of two favoured in the 2002 Long-Term Water Supply Strategy. Raising Candowie will allow the Corporation to maximise the possibilities presented by the Bass River.

The frequency and magnitude of Bass River flows mandates that these flows are captured and stored if and when they occur. This is not possible with the current Candowie capacity.

The CRSWS supports upgrades of existing dams to maximise their efficiency.

Community expectations in response to the severity of the 2006/2007 drought focused Westernport to pursue augmentation options that secure the water supply to the area and provide for the removal of restrictions.

It is agreed that an updated Water Supply Strategy will be prepared that clarifies the operational characteristics of our supply system

5.2.1 Raising of Candowie Reservoir and associated works

This is the dominant project of the capital works program representing 47% of Westernport Water's Capex for the 2nd regulatory period and approximately 80% of Capex in 2010/11. This project is intended to improve the reliability of the water supply system and availability of water resources by approximately doubling the storage capacity of Candowie Reservoir (from 2,200 ML to 4,500 ML). This is to be achieved by a 3 meter raising of the full supply level (embankment and spillway). It includes the raising the outlet tower and other works around the reservoir. Works are planned to take place over 2009/10 and 2010/11 with the bulk of the works in 2010/11.

Prior to the commencement of the first regulatory period Westernport Water intended to secure supplies by providing a pipeline connection to the Melbourne system, but this project was abandoned after the decision taken by the Victorian Government to construct a desalination plant

for Melbourne in Wonthaggi. This was because it no longer appeared sensible to provide a pipeline almost parallel to the Wonthaggi - Melbourne pipeline but carrying potable water in the opposite direction. Furthermore the cost of permanent water rights, which had not originally been factored into the project cost, was considered to be prohibitive. The raising of Candowie Reservoir had been identified as an alternative to this scheme (GHD, 2002) but was not favoured by Westernport Water at the time that the 2005 Water Plan was prepared for the following reasons (SKM, 2004c):

- Concern that raising the Candowie Reservoir to increase its yield may not be effective if current climatic conditions continue. This is resolved, in part, as additional water from other catchments is proposed to be diverted into the dam.
- Taste and odour problems associated with water from Candowie Reservoir and risk associated with the supply from Candowie Reservoir becoming unavailable (on account of algal blooms) especially during peak demand periods. The reservoir catchment is used for dairy farming resulting in high nutrient loads entering the reservoir and frequent algal blooms.

This is being addressed, in part, by proposed land purchases within the catchment immediately upstream of the reservoir and the elimination of stock farming on purchased land; and by the development of a wetland in the headwaters of the dam. In addition the planned extension of the Bass River Pipeline to bypass the Reservoir directly into the Ian Bartlett Water Treatment Plant will allow water from this higher quality source to bypass the dam. Lastly it is planned to install treatment facilities at the treatment plant to remove the taste and odour causing agents.

- An unresolved issue concerning the embankment design that potentially could increase this cost by approximately \$2M to \$11.015M, (the original estimate being \$9.015M). Westernport Water has, for the current cost estimate, provided for this by inclusion of an allowance of \$2.2M (not including a further 30% contingency on this amount).

The current cost estimate totals approximately \$14M. It is based on previous estimates escalated simply to account for current costs of construction. It includes a 30% contingency allowance.

In response to the Draft Report Westernport Water prepared a Gantt chart indicating the steps it plans to follow in the implementation of this project and the timeline. The key items indicated in the program were:

- Preliminary investigations including catchment modelling / hydrology, geotechnical, passing flow requirements, environmental (catchment and flora/fauna), archaeological and heritage studies and land valuation. These studies are scheduled to commence in September 2008 and be completed by the end of July 2009 (9 months);
- Land acquisition;

- Consultation with interested and affected parties commencing after some of the key studies have been completed and continuing for the remainder of the project;
- Design commencing in August 2009 with completion of the design by December 2008 and the design review completed in mid-March 2010;
- Construction commencing in mid-March 2010 and being completed within six months.

The revised project expenditure profile cash flow shown in **Table 5-3** is not consistent with the above program but is considered more realistic. The key inconsistency is that the construction related expenditure does not match. However in discussions Westernport Water has agreed to adopt the revised expenditure profile.

The review team is concerned that insufficient time has been allowed for the Preliminary Investigations and that these investigations are more likely to consume two to three years rather than the nine months indicated in the program. No allowance is provided for the preparation of the business case and for DTF Gateway approvals. Furthermore should any of the landowners be opposed to selling their land compulsory acquisition procedures could lead to delays. There is no apparent allowance for functional design which the review team considers critical given the uncertainty of the extent of raising required.

There are a number of issues identified in the Draft Report (repeated in *italics* below) in respect of this project and the cost estimate that were clarified for this Final Report. The issues identified, and Westernport Water's responses are provided below:

- *The strategy that supports the need and timing of the proposed raising. It is noted that the proposed pipeline to Melbourne was favoured as the major water supply augmentation in the Water Supply Demand Strategy (Westernport Water, 2007), and the Raising of Candowie not identified as an option. There does not appear to be a current signed off contemporary Water Supply Demand Strategy that is based on a robust assessment of the options and their costs and which identifies a preferred option(s);*
- *The analysis supporting a three meter raising of the reservoir of the full supply level (as opposed to greater or lesser heights), and whether this is based on inflows from local catchments, diversions from adjacent catchments (Bass River) or a combination of these has not been sighted by the review team. It is unclear whether this has been undertaken yet. It is noted that the Candowie Reservoir catchment is denoted as already exceeding the Sustainable Diversion Limits(SDL's) (SKM, 2005) and additional diversions from this catchment may not be permitted. As a minimum the Department of Sustainability and Environment is likely to require extensive investigations to assess whether any further diversions would be sustainable*

WPW response

The proposed three meter raising of the FSL was identified in the 2002 Long-Term Water Supply Strategy. This strategy identified that the storage capacity of 2,207ML [revised capacity to 2,263ML in 2007] represented less than 50% of the mean annual flows. The strategy further stated that “reservoir capacities up to 100% of the mean annual flows are typically cost effective in providing an increase in yield. A 3m raising of the FSL will result in a 4,500ML storage capacity which is 75% of mean annual flow”. The analysis was based solely on the Candowie catchment. The study to identify SDL’s bears no direct relevance to the BE that has been previously issued for Candowie.

It is expected that an updated hydrological study of the catchment and its flows will be part of the preliminary work ahead of identifying what is the optimum FSL under current and forecast climatic conditions.

The review team does not agree that the SDL’s have no direct relevance. We understand that Westernport Water believes that abstractions from the catchment will be limited only by its current Bulk Entitlement (a limit, of 2,385 ML/year) and that it would be entitled to raise Candowie Reservoir sufficiently to achieve the abstractions allowed by the Bulk Entitlement. The review team understands that abstractions are limited by **both** the value stated in the BE **and** the capacity constraints of the infrastructure installed at the time the Bulk Entitlement was issued. This information is expressed in the Section 10 of the Bulk Entitlement Conversion Order (ref 13).

This is the key reason why the review team believes that extensive studies, lasting two years at minimum, will be necessary to establish the extent of desired raising, as this cannot be determined before the environmental passing flows have been agreed with interested parties. The following issues were discussed with Westernport Water:

- *The nature of investigations leading to the inclusion of \$2.2M allowance for the additional works on the embankment;*

WPW response

These studies were preliminary based on concept designs. Given there are differences between the advice provided to the Corporation by its consultants further work is required to clarify the situation.

The “worst case” option has been included in the Water Plan estimate for Candowie.

- *To clarify how the current cost estimate was developed and whether it includes for the tertiary treatment process works previously included (in the total cost of \$9.015M) at a cost of \$3.68M;*

WPW response

The current cost estimate for raising Candowie does not include the tertiary treatment process. This project is now separately identified in the 2008-2013 Water Plan

- *Whether an assessment of the risks and opportunities associated with the project has been undertaken and a risk adjusted project estimate has been determined;*

WPW response

These activities will be incorporated in Years 1 and 2 of the Water Plan

The review team has considered the responses made by Westernport Water to the issues identified in its Draft Report and has formed the following view:

- The review team acknowledges that raising Candowie Reservoir will improve the supply security and water resource availability for Westernport Water's customers;
- The extent of raising that would be optimal has not been determined, and this work is still required and yet to be undertaken;
- The current cost estimate is therefore notional in nature and in the opinion of the review team likely to be high. This is because the review team considers that a three meter raising is the maximum that is likely to be optimal. Furthermore the Water Plan expenditure is considerably greater than the cost estimate previously provided for this project for the first Water Plan of \$7.335M (Total cost \$11.015M minus \$3.68M for tertiary treatment process works). The "worst case" option has also been adopted for inclusion in the Water Plan expenditure for this regulatory period by adding in a \$2.2M allowance for the additional works on the embankment. The current estimate is now \$13.9M (nearly 75% greater than previously after adjusting for inflation).
- The program provided is optimistic. The review team recommends that three years be allowed before construction be assumed to commence.

The review team recommends that:

- Construction related expenditure for the Raising of Candowie Reservoir be deferred to the end of the second regulatory period, and be spread over the last two years of the regulatory period.
- The basic expenditure profile submitted by Westernport Water following recent discussion with the review team be adopted, as shown in **Table 5-3** with some minor amendments to reflect the extensive studies envisioned over the first three years of the regulatory period.

Alternatively the construction related expenditure should be omitted from forecast expenditure for regulatory purposes pending a further review of its impact on water prices, and adjustment thereof, once the costs have been more accurately determined.

The review team understands and appreciates the importance of increasing water resource availability and security for Westernport Water's customers. However a more solid strategy needs to be in place and the review team understands that Westernport Water appreciates the need to update the Water Supply Demand Strategy.

5.2.2 Water Quality Improvement (GAC / Ozone)

The installation of granulated activated carbon or ozonation facilities at the Ian Bartlett Water Treatment Plant is designed to deal with the taste and odour problems that have been the subject of complaints from customers for many years. The review team considers that the need for these works has been established, the cost estimate of \$3.75M is reasonable and prudent and the timing proposed is reasonable for delivery during the second regulatory period.

5.2.3 Under channel pipeline

The pipeline through which the water supply to Phillip Island is provided is strapped to the San Remo road bridge. Failure of the pipeline or the bridge will isolate Phillip Island from its water supply. The project is driven by the desire to mitigate the risk of this failure, which has been categorised as one of the most severe risks faced by the business. Westernport Water proposes to complete an under channel bore using a 280mm pipeline using a boring method successfully applied by Telstra recently at this location to install an optic fibre. This pipeline capacity is sufficient to meet average daily demand. This new pipeline would operate in parallel with the existing pipeline.

For such projects, the review team would normally like to see more information on the probability of failure and the cost of the consequences of failure, a comparison of the options assessed (including an option which relied on fast tracked installation of a replacement pipeline within a short period as part of a robust contingency plan) and the business decision processes. In this case the review team understands that even if the probability of failure of this pipeline is low, the consequences of failure are high.

The cost estimate has been established from first principles based on an assumed 1km length, and costs of pipeline supply, boring and the connections to be made at each end, with allowances for design (10%) and contingency (15%). This estimate is considered reasonable.

While the review team would like to see more robust justification it considers this expenditure to be reasonable, and deliverable according to the program envisaged by Westernport Water. Westernport Water did not illustrate the prudence of this expenditure by providing information on the other options analysed. Nevertheless the review team does not recommend any change to the forecast expenditure or its timing.

5.2.4 Bass River Augmentation

This project envisages the duplication of the recently completed pipeline to convey water diverted from the Bass River in order to increase the diversion capacity. In response to queries raised in the Draft Report Westernport Water provided the following clarification on the following two issues:

- The status of key approvals required, especially in respect of the water rights;
- The basis of the cost estimate.

WPW response

Cost Estimate – based on the works already undertaken in 2006/07. VIC Roads exemption. Bass Coast Shire Planning amendment to encompass emergency works permits.

WPW is currently participating in the Bass River Flow advisory group facilitated by Melb Water to identify environmental and customer impacts of applying for a bulk water entitlement (BE) on the Bass River of up to 2000ML. Melb Water study is currently underway to provide the ‘optimal’ flow for health of BE. Depending on the results of this study (due for completion at end of March), WPW will need to remodel Bass River flow data to accommodate a change in the required environmental flow. BE community consultation is scheduled for March 2008 with results of advisory group issues, community issues and environmental impacts incorporated into final BE application to Minister (June 2008).

WPW currently has an approved licence [annual] for extracting up to 13ML per day during the period 1 Jul to 31 Oct 2008.

Westernport Water did not provide a response on the following issue:

- Information supporting the required timing of this duplication, and a detailed program supporting the forecast expenditure profile.

The review team has considered the responses made by Westernport Water to the issues raised in the Draft Report and has formed the following view:

- The project will provide a desirable and necessary improvement to the water supply capacity;
- It is regrettable that it was not feasible to provide a single larger pipeline initially rather than be faced with the need to duplicate the existing system which was constructed in emergency circumstances in 2006/07 (operations commenced in July 2007);
- The cost estimate is likely to be reasonably accurate given it is based on the actual cost of the initial works;
- The capacity of the scheme is still subject to some uncertainty and may depend on the outcomes of the environmental flow studies being conducted.

The review team has not recommended any changes to the expenditure quantum or profile for this project.

5.2.5 Desalination

The costs shown in **Table 5-2** make provision for feasibility investigations (\$0.1M in 2009/10) and design (\$0.4M in 2010/11) for the supply of desalinated seawater to provide an additional or emergency supply for Westernport Water. This supply would comprise a connection into the pipeline between the desalination plant at Wonthaggi and Melbourne.

It is understood that the proposed route of the Wonthaggi – Melbourne pipeline crosses the pipeline from Bass River to Candowie Reservoir. Connecting these two pipelines is therefore expected to be relatively inexpensive. Westernport Water undoubtedly needs to consider whether it wishes to connect to this scheme. The review team considers that a feasibility study similar to that proposed by Westernport Water is required. Issues to be resolved include:

- Establishment of the required capacity of the desalinated water supply – and whether it would be an emergency supply or form part of the normal supply;
- The required timing;
- The terms on which water will be made available from the Melbourne supply line and costs, both those offered by the proponents and those that Westernport would find desirable or acceptable;
- The optimum locality of the offtake and nature of works to be provided downstream of the connection, including consideration of blending requirements and delivering the desalinated water into Candowie Reservoir.

The review team considers that the cost allowed for this feasibility study to be appropriate, and that it should be integrated with updating of the Water Supply Demand Strategy. The Draft Report stated – *“In view of the uncertainty about the required timing and cost it is recommended that the costs for design of the desalination works should be deferred into the third regulatory period, if required.”* Westernport Water’s response was as follows:

- CAPEX Desal \$400k – WPW does not agree to remove from CAPEX program. Estimate of costs include assumptions regarding the actual connection to desal(inated) water, consultant costs to negotiate commercial arrangements. WPW believe that it needs to be prepared for the potential of connecting to the desal(inated) water pipeline, following results of the feasibility study.
- WPW propose no change to the \$500k allocation of feasibility and consultant costs of developing connection and commercial arrangement strategies for desalination.

The review team also discussed with the ESC and Westernport Water whether the expenditure on these feasibility studies should be classified as Capex or more properly Opex (in this case as there is no certainty the expenditure will need to capital works or physical assets. The ESC has advised that it does not have a significant issue with this expenditure being classified as Capex in this instance (even though this may be different from the accounting standards approach).

The review team has considered Westernport Water's response and recommends that:

- An appropriate and reasonable quantum of expenditure for the initial feasibility study work should be \$300K in aggregate given the uncertainty as to whether a connection will be found to be desirable;
- the feasibility study and early "design" related expenditure be included as capital expenditure for regulatory purposes.

5.2.6 Bass River Pipeline extension to Ian Bartlett Water Treatment Plant

This project envisages the extension of the recently completed pipeline which conveys water diverted from the Bass River Diversion, in order to bypass Candowie Reservoir and enable the higher quality water from Bass River to be supplied directly to consumers, after treatment. This will improve water quality provided to customers.

The review team considers the cost estimate to be reasonable, the expenditure prudent and the timeline reasonable.

5.3 Capital Planning Processes

The review team considers that Westernport Water's capital planning processes are sound but can be made more robust. It is also acknowledged that the apparent shortcomings are partly attributable to the unforeseen need to abandon the plans to link the Melbourne Supply System.

The review team recommends that the ESC includes a review of Westernport Water's capital planning processes as part of its regulatory audits.

WPW response

WPW (is informed by) risk assessments, audit findings, initiatives and compliance.

(WPW's) Typical cycle of project budgeting: Budget packs are issued by Finance in January (Corp Plan) includes CAPEX justification form. All departments review requirements and provide a preliminary justifications to include in the CAPEX program – this helps identify the types, scope, risks and \$'s of proposed projects. All justifications are reviewed initially for completeness, scope, and priority and is then presented to and reviewed by the budget review panel. A final CAPEX program is approved by the review panel and the Board. All projects require a detailed justification to proceed and these are reviewed by the executive management team (EMT).



5.4 Recommendations

Preliminary recommendations on the Capital expenditure forecasts are that:

- expenditure for the Raising of Candowie Reservoir be delayed or partially deferred as outlined in Sections 5.2 and 5.2.1 and Table 5.4.
- \$300K be provided for the feasibility studies (including for the assessment of connection to the desalination pipeline) in the second regulatory period with the balance deferred to the third regulatory period.

Table 5-4 outlines the recommended revisions to Westernport Water’s capital expenditure forecasts for the five year regulatory period.

■ Table 5-4: Westernport Water: Recommended Changes to Regulatory Capital Expenditure Forecast

Change Item	Project/Description		\$M					Later Periods	
			2007-08	2008-09	2009-10	2010-11	2011-12		2012-13
1	Raising of Candowie Reservoir	Original Water Plan Forecast:	0.00	0.20	0.20	13.50	0.00	0.00	
		Recommended Revised Forecast:		0.25	0.25	0.40	6.50	6.50	
		Recommended Net Change:		0.05	0.05	-13.10	6.50	6.50	
2	Desalination Option Study	Original Water Plan Forecast:	0.00	0.00	0.10	0.40	0.00	0.00	
		Recommended Revised Forecast:		0.00	0.10	0.20	0.00	0.00	
		Recommended Net Change:				-0.20			
Total Recommended Net Change:			\$ -	\$ 0.05	\$ 0.05	\$ (13.30)	\$ 6.50	\$ 6.50	\$ -
Original Water Plan Total Regulatory Capex:			\$ 5.23	\$ 2.80	\$ 3.95	\$ 16.32	\$ 4.19	\$ 2.38	
Recommended Revised Total Regulatory Capex:			\$ 5.23	\$ 2.85	\$ 4.00	\$ 3.02	\$ 10.69	\$ 8.88	

The review team further recommends that the ESC consider whether the construction related costs allowed for the Raising of Candowie Reservoir should be reviewed for pricing purposes following the preliminary investigations which would more accurately define the scope of the project and its costs.

6. Operating Expenditure (Opex)

Table 6-1 (on the following page) presents a breakdown of historical and forecast operating expenditure. A large increase in expenditure occurred in 2006/07 driven mainly by the drought response. The 2006/07 year also included bulk water purchases from South Gippsland Water, and a one-off increase in outsourced contractor services.

The lower part of **Table 6-1** shows the increases in each year relative to the cost incurred in the base year of 2006/07 for each line item.

This lower part of the table indicates that corporate labour costs and “administration other” (see note 2 in **Table 6-1** for a description of this item) are two of the most significant drivers of the net total increased operational expenditure (of over \$3M) for the second regulatory period relative to actual expenditure in 2006/07. The increases are also offset by some significant decreases, mainly a forecast decrease in the use of contracted-in services. The key elements of the changes in expenditure are:

- Increases as follows:
 - Corporate labour costs (\$4.16M or 136% of the net total increase) and “other corporate labour expenses” (\$0.64M or 21% of the net total increase);
 - “Administration other” (\$1.06M or 35% of the net total increase);
 - Corporate Governance and Board (\$0.84M or 27% of the net total increase); and
 - Energy for Operations (including Bass River) (\$0.53M or 17% of the increase).
- Decreases as follows:
 - Outsourced services by contractors (\$2.91M) and consultants (\$0.58M);
 - Materials (\$0.35M).

The decrease in use of outsourced services and increase in corporate costs is attributable to staff taken on in 2006/07, mainly in the corporate area. Many of these staff were initially on contract and were subsequently employed on a full time basis.

■ **Table 6-1: Westernport Water: Historical and Forecast Operating expenditure by cost driver**

Expenditure in \$000 real (1/1/07)	FIRST REG PERIOD			SECOND REG PERIOD					SECOND REG PERIOD	
	2005-06	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13	Total	%
Labour										
Corporate	1,772	1,821	2,212	2,605	2,627	2,652	2,678	2,704	13,266	30%
Operations	1,090	1,244	1,043	1,126	1,137	1,171	1,167	1,208	5,808	13%
Other Labour Expenses ¹										
Corporate	189	96	318	268	213	213	213	213	1,120	3%
Operations	57	21	29	53	53	41	41	41	229	1%
Outsourced Services										
Contractors	974	1,488	936	872	873	909	949	929	4,533	10%
Consultants	166	590	496	572	474	517	436	364	2,363	5%
Energy										
Corporate	18	17	17	16	16	16	16	16	80	0%
Operations - includes Bass River	316	378	384	484	484	484	484	484	2,420	5%
Materials ³	223	415	436	344	350	356	342	336	1,728	4%
Tests & Sampling	103	117	108	113	113	113	113	113	565	1%
Chemicals	236	274	265	285	285	285	285	285	1,425	3%
Bulk Water Purchases	-	44	-	-	-	-	-	-	-	0%
License & permit Fees / Environmental Levy	481	475	521	529	517	503	490	478	2,517	6%
Corporate Governance & Board	443	578	722	739	736	749	752	752	3,728	8%
Administrative Other ²	918	789	929	980	1,002	1,009	1,001	1,015	5,007	11%
Total	6,986	8,345	8,415	8,986	8,878	9,019	8,967	8,939	44,790	100%
Expenditure increases above 2006/07										
Expenditure in \$000 real (1/1/07)	FIRST REG PERIOD			SECOND REG PERIOD					SECOND REG PERIOD	
	2005-06	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13	Total	%
Labour										
Corporate	-	391	784	806	831	857	883	883	4,161	136%
Operations	-	(200)	(118)	(107)	(73)	(77)	(35)	(35)	(410)	-13%
Other Labour Expenses ¹										
Corporate	-	222	173	117	118	117	118	118	642	21%
Operations	-	8	32	32	20	20	20	20	125	4%
Outsourced Services										
Contractors	-	(553)	(616)	(615)	(579)	(539)	(559)	(559)	(2,909)	-95%
Consultants	-	(93)	(18)	(115)	(73)	(153)	(225)	(225)	(585)	-19%
Energy										
Corporate	-	(0)	(1)	(1)	(1)	(1)	(1)	(1)	(3)	0%
Operations - includes Bass River	-	6	106	106	106	106	106	106	528	17%
Materials ³	-	21	(71)	(65)	(59)	(73)	(79)	(79)	(347)	-11%
Tests & Sampling	-	(9)	(4)	(4)	(4)	(4)	(4)	(4)	(20)	-1%
Chemicals	-	(10)	11	11	11	11	11	11	54	2%
Bulk Water Purchases	-	(44)	(44)	(44)	(44)	(44)	(44)	(44)	(222)	-7%
License & permit Fees / Environmental Levy	-	45	54	42	28	15	2	2	142	5%
Corporate Governance & Board	-	145	161	158	172	174	174	174	840	27%
Administrative Other ²	-	141	191	213	220	212	227	227	1,064	35%
Total	-	-	69	641	533	673	622	594	3,063	100%

Notes:

¹ Other labour expenses include training, conferences, uniforms, medical expenses, staff recognition program, performance bonus, travel & accommodation, conference costs, subscriptions & memberships, staff amenities.

² Administrative Other includes vehicle maintenance, telephones, debt collection, freight costs, rental expenses, MIS, entertainment expenses, insurance, advertising, donations, computer maintenance.

³ Includes office supplies and software, and plant hire.

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6.1 Derivation of the Variance from Target BAU Opex

Table 6-2 below summarises Westernport Water’s forecast operating expenditure and shows the “Variance from Target BAU Opex” derived in the manner explained in Section 2.

■ **Table 6-2: Westernport Water: Historical and Forecast Opex and Variance to Target BAU**

Expenditure in \$ millions real (1/1/07)	FIRST REG PERIOD			SECOND REG PERIOD				
	2005-06	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13
BAU opex	7.40	8.36	8.29	8.36	8.37	8.39	8.36	8.31
New obligations				0.23	0.09	0.21	0.16	0.18
Sub-total Opex	7.40	8.36	8.29	8.59	8.47	8.59	8.53	8.48
Bulk water charges	-	-	-	-	-	-	-	-
Licence fees	0.06	0.02	0.05	0.05	0.05	0.05	0.05	0.05
Enviro levy	-	-	-	0.43	0.42	0.40	0.39	0.38
Gross operating expenditure	7.46	8.38	8.34	9.07	8.94	9.05	8.97	8.91
Target BAU Opex			8.38	8.46	8.53	8.61	8.69	8.77
Variance from Target BAU Opex			(0.09)	0.13	(0.07)	(0.02)	(0.16)	(0.28)
Customers and Consumption								
Total customers ('000)	12.63	13.56	13.73	14.00	14.27	14.54	14.82	15.11
Growth relative to 2006-07	-	1.00	1.01	1.03	1.05	1.07	1.09	1.11

Overall total planned operating expenditure in the second regulatory period is less than Target BAU Opex both in aggregate over the five year period and in each year other than 2008/09. This indicates that (after allowing for growth) productivity improvements exceeding 1% per annum relative to the 2006/07 base year are expected.

However it should be noted, from inspection of Table 6-1, that in 2006/07 the expenditure on contractors (and consultants) increased dramatically (and at an unusually rapid rate) to quite high levels. This and a couple of other one-off expenditures contributed to a relatively and materially higher operating expenditure in the assumed base year. We have assumed for the purposes of this assessment that as the ‘Variance from target BAU Opex’ is negative the productivity target at a global level is achieved.

6.2 Additional costs relative to the 2006/07 base (‘Explanation of Variance’)

Westernport Water advised the review team of a number of “new” / additional costs that it expects to incur during the regulatory period and that it regards as additional to the normal BAU Opex incurred in 2006/07. As such, these costs indicated the extent by which planned productivity improvements exceed 1% per year, after allowing for growth. The additional costs advised by Westernport Water are shown in Table 6-3. [NB: This list would ordinarily be considered as potentially justifying a ‘Variance to Target BAU Opex’ where the variance is positive. As noted above, for Westernport Water the variance is negative, except in 2008/09.]

■ **Table 6-3: “New” Costs or Explanation of the Variance from Target BAU Opex submitted by Westernport Water**

Expenditure in \$ millions real (1/1/07)	SECOND REG PERIOD					Total	%
	2008-09	2009-10	2010-11	2011-12	2012-13		
Preventative maintenance							
Salaries & vehicle	0.05	0.05	0.05	0.05	0.05	0.27	
Contractors, materials and plant hire	0.06	0.06	0.10	0.06	0.09	0.36	
Water supply security						-	
Electricity (Bass River and Grantville Bores)	0.09	0.09	0.09	0.09	0.09	0.45	
Senior Engineer	0.10	0.10	0.10	0.10	0.10	0.50	
Water quality							
Air scouring	0.05	0.05	0.05	0.05	0.05	0.25	
Distribution main cleaning	0.01					0.01	
Water quality officer	0.08	0.08	0.08	0.08	0.08	0.40	
Sewer management (Treatment plant officer)	0.06	0.06	0.06	0.06	0.06	0.30	
Corporate costs							
Senior accountant	0.10	0.10	0.10	0.10	0.10	0.50	
Increased electricity charges	0.10	0.10	0.10	0.10	0.10	0.50	
Sewer management system audits	0.05	0.05	0.05	0.05	0.05	0.25	
Increased monitoring of sewer pump stations	0.03	0.03	0.03	0.03	0.03	0.15	
Ecological review of waterways				0.02		0.02	
Sustainability principles	0.10	0.01	0.08	0.01	0.08	0.28	
Total	0.88	0.79	0.89	0.81	0.88	4.24	
Variance from Target BAU Opex	0.13	(0.07)	(0.02)	(0.16)	(0.28)	(0.40)	
Difference	(0.75)	(0.85)	(0.90)	(0.97)	(1.16)		

As the “Variance from Target BAU Opex” is negative and only a small quantum of the variance requires explanation these “new” costs have not been assessed in detail by the review team. Nevertheless the review team did assess the additional items identified for reasonableness in broad terms. The review team notes that (assuming all the above items were considered justified after more detailed examination):

- The information suggests that in broad terms Westernport Water intends to effectively achieve an implied “productivity” increase of approximately 10% in the first year (including the stipulated 1% productivity improvement post allowance for growth) and a slightly higher productivity in the last four years of between the 1% minimum stipulated productivity (post growth) up to approximately 2%;
- If the sharp increase in operating expenditure for contractors and consultants at 2006/07 (of approximately \$0.94M) was scaled back (say using 2005/06 as a base year with a small allowance), Westernport Water would most likely still achieve the 1% productivity target (after adjustment for growth).

Concise information on the significant items in **Table 6-3** which were explored in some detail with Westernport Water is presented below:

- **Preventative maintenance:** (\$0.63M total). This item covers salary expenses for an additional staff member with vehicle operating on asset management. It also includes costs for use of contractors, materials purchase and plant hire (page 86 of Water Plan). It has been confirmed

that these items are appropriately designated as Opex as they will not create new assets or enhance existing assets.

- **Water supply security:** (\$ 0.2M/ year). This item covers extra electricity costs associated with the new diversion from Bass River and a new Senior Engineer to assist with the delivery of the Capex program.
- **Labour Costs/Additional new staff:** (0.41M/year) Westernport Water plan to take on new staff members as follows:
 - Senior accountant;
 - Senior engineer – to assist with the delivery of the Capital Works programme;
 - Water quality officer – focussing on delivery of improved water quality, a key area of customer concern;
 - Treatment plant officer – within the wastewater area; and
 - Asset management officer – focussing on preventative maintenance and improved asset management systems, processes and procedures.

On an individual basis these costs are considered to be reasonable and prudent. The level of associated on-costs is considered reasonable.

The overall picture in respect of Westernport Water’s labour costs and numbers is presented in **Table 6-4**.

■ **Table 6-4: Labour Costs**

Description	First regulatory period			Second regulatory period				
	2005-06	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13
Total labour cost (\$000)	2862	3,065	3,255	3,731	3,763	3,823	3,844	3,912
Total number of labour and staff (FTEs)	42.9	47.1	51.4	58.15	58.15	58.15	58.15	58.15
Average cost of labour and staff (\$000/year)	\$ 66.71	\$ 65.07	\$ 63.33	\$ 64.16	\$ 64.71	\$ 65.74	\$ 66.10	\$ 67.27
Average cost of new labour and staff (\$/year)		\$ 48.33	\$ 44.19	\$ 70.52	\$ -	\$ -	\$ -	\$ -

Overall the proposed increases are within the bounds considered reasonable (**Section 3.2.3**) as are the on-costs included.

6.3 Issues considered

6.3.1 Increased Electricity charges

Westernport Water provided the following information concerning the arrangements for purchasing electricity.

WPW response

WPW contract for the two contestable sites expire in March 2008. WPW water plan assumptions regarding electricity were as follows:

- 100% increase in electricity costs for CWWTP and IBWPP applied (\$100k increase per year over water plan period);
- Extra electricity costs associated with pumping from Bass River and Corinella borefields (approx \$90k per year over water plan period)
- Assumptions made on strategy for pumping from Bass River and borefields 1,000ML from each source
- WPW to tender electricity supply contracts (including contestable sites) in preparation of current contracts expiring March 2008)

Westernport Water provided evidence of a doubling in tariffs for the wholesale price (i.e. the variable components for peak and off-peak charges) of electricity from a recent (April 2007) contract signed with a supplier for the Grantville bore site. Based on this Westernport Water assumed an increase of 26% should be applied to the 2006/07 overall electricity costs to forecast costs during the second regulatory period.

In response to the queries raised in the Draft Report Westernport Water provided the following:

WPW response

WPW has conducted a detailed review of 2006/07 energy consumption and has revised the original assumptions included in the Water Plan submission (detailed above in Section 3.1.1).

WPW's electricity costs will be increasing from original submission as per following*:

	<u>2008/09</u>	<u>2009/10</u>	<u>2010/2011</u>	<u>2011/12</u>	<u>2012/13</u>
ORIG SUBMISSION	\$484k	\$484k	\$484k	\$484k	\$484k
REVISED SUBMISSION	\$520k	\$520k	\$520k	\$520k	\$520k

PLEASE NOTE – 2006/07 was a year of restricted supply and therefore pumping costs would have been reduced due to low flows both in relation to demand and sewerage. However, additional pumping was required for emergency water (Lance Creek) as well from Bass River and Grantville bore.

Our ref INT08-03047 – electricity analysis.

The revised assumptions are based on 2006/07 energy costs, including:

- 10% in electricity costs across all sites, including contestable sites, but excluding new sites for Bass River and borefields;
- calculation of average unit rate for each site based on kWh, including peak, off-peak, network charges and other charges;
- pumping kWh per ML dependant on volume of demand
- Volumes based on revised demand forecasts – 1,700ML starting consumption for 08/09, with 1% demand growth per year;
- pumping from Bass River and borefields based on current contract prices;
- pumping volumes from Bass River and borefields of 1,000ML and 500ML respectively per year;
- Wastewater volumes based on 60% of demand volumes
- Supporting justification attached (excel spreadsheet)

*WPW is currently requesting quotes for electricity supply for all sites where contracts will be expiring in March 2008. Following receipt of quotes WPW reserves the right to update electricity cost assumptions for the water plan period prior to the ESC's final determination.

The detailed spreadsheet which was submitted (as referred to above in WPW's response) which provided a breakdown of estimated annual consumption and forecast costs according to the different tariffs applicable at Westernport Water's sites reflected somewhat higher total costs than the "revised submission" of \$520K/year above. These costs have been taken as the basis of Westernport Water's revised submission and are shown in **Table 6-5**

Westernport Water also agreed that costs amounting to \$6K/year were no longer applicable as it was no longer planned to pump water from Lance Creek.

Westernport Water has assumed an approximately 12% real increase in electricity prices for all years (compared with 2006/07). This is consistent with the review team's view of future real increases in electricity prices, as discussed in **Section 3.2.1**.

The review team's final assessment of electricity costs is summarised in **Table 6-5**. Compared with the Water Plan submitted an increase in the provision for future increases in real electricity costs (relative to the 2006/07 base) is recommended. The recommended increases are \$23K, \$41K, \$45K, \$49K and \$53K in the respective years of the regulatory period (and \$210K in aggregate).

■ **Table 6-5: Analysis of Electricity Costs**

Line item	Description (all costs \$000 real Jan 2007)							Total
		2006/07	2008/09	2009/10	2010/11	2011/12	2012/13	
1	Base electricity cost (2006/07 expenditure) (\$000)	394.804						
2	Annual consumption (MWh)	3,194.45	3,775	3,803	3,832	3,861	3,890	
3	Forecast total cost by WPW (\$000)		521.72	525.59	529.50	533.45	537.43	2,648
4	Forecast movement wrt 2006/07 (\$000)	0.00	126.91	130.78	134.69	138.64	142.63	674
5	Average total cost (\$/kWh)	0.124	0.138	0.138	0.138	0.138	0.138	
6	Percentage increase in tariff wrt 2006/07		12%	12%	12%	12%	12%	
7	Recommended percentage increases (Section 3.1.1)		0.12	0.15	0.15	0.15	0.15	
8	Recommended total average cost (\$/kWh)		0.138	0.142	0.142	0.142	0.142	
9	Increased costs attributable to increase tariffs (\$000)		47	59	59	59	59	284
10	Increase costs attributable to increased demand (\$000)		80	87	91	95	99	451
11	Total costs recommended (\$000)		522.51	540.53	544.60	548.71	552.85	2,709
12	Total increase in costs recommended		128	146	150	154	158	735
13	Difference (Line 4 - Line 12) - revised submission		0.8	14.9	15.1	15.3	15.4	61.52
14	Water Plan provision for real electricity cost increases		105	105	105	105	105	525
15	Real Electricity Cost Increases - Adjustment compared with Water Plan (Line 12 - Line 14)		23	41	45	49	53	210

6.4 Water Supply Demand Strategy

The decision not to proceed with the pipeline to interconnect with the Melbourne water supply system has rendered Westernport Water's current Water Supply Demand Strategy (WSDS) out of date. This issue is discussed in further detail in **Section 5.2**. It is recommended that the WSDS be updated to produce a contemporary and robust Water Supply Strategy. An additional provision of \$25K has been provided for this in 2008/09.

6.5 Conclusions and Recommendations

Table 6-2 and the discussion presented in **Section 6.2** show that Westernport Water expects to achieve productivity improvements in excess of 1% per annum, after adjustment for growth. Therefore no adjustment in Westernport Water's Water Plan operating expenditure is technically required.

However the review team considers that the ESC should allow an increase in Westernport Water's Water Plan operating expenditure as indicated in **Table 6.6** to cover

- Real increases in electricity costs consistent with the review team's approach (and with the other water businesses).
- Preparation of a more robust Water Supply Strategy that is consolidated with the desalination study (see **Section 5.2.5**).

Table 6-6 outlines the possible impact on Westernport Water's operating expenditure forecasts for the five year regulatory period arising if the potential changes were adopted. These changes would not impact on Westernport Water achieving the growth adjusted 1% per annum productivity improvement target (after allowance for the other items discussed in **Section 6.2**).



■ **Table 6-6: Recommended Changes to Westernport Water’s Operational Expenditure for Regulatory Purposes**

Change Item	Item/Description		\$M				
			2008-09	2009-10	2010-11	2011-12	2012-13
1	Increased electricity charges	Original Water Plan Forecast:	0.105	0.105	0.105	0.105	0.105
		Recommended Revised Forecast:	0.128	0.146	0.150	0.154	0.158
		Recommended Net Change:	0.023	0.041	0.045	0.049	0.053
2	Update Water Supply Demand Strategy	Original Water Plan Forecast:	0.000	0.00			
		Recommended Revised Forecast:	0.025				
		Recommended Net Change:	0.025				
Total Recommended Net Change:			\$ 0.05	\$ 0.04	\$ 0.04	\$ 0.05	\$ 0.05
Original Water Plan Total Regulatory Opex:			\$ 9.07	\$ 8.94	\$ 9.05	\$ 8.97	\$ 8.91
Recommended Revised Total Regulatory Opex:			\$ 9.12	\$ 8.98	\$ 9.09	\$ 9.02	\$ 8.96

Note:

- 1) Change item 1 refers to adjustments in the **increase** in real electricity charges relative to the 2006/07 base year, and not total electricity charges. Please note that the costs shown for the “Original Water Plan Forecast” are not the revised costs submitted by Westernport Water following the Draft Report.

References

- 1) Byrne, A, 2000, *A Review of Augmentation Needs for the Water Supply System: Report to Board*, Westernport Water, February 2000
- 2) Environmental Protection Agency, 2006, *Principles to Establish EPA Environmental Obligations for Water Businesses for the 2008-2013 Pricing determination*, EPA Publication 1069, November 2006.
- 3) GHD, 2002a, *Review of Long-term Water Supply Augmentation Options: Option Report*, Report prepared for Westernport Water, August 2002
- 4) GHD, 2002b, *Water Resources Plan(draft)*, Report prepared for Westernport Water, August 2002
- 5) Maunsell, 2007, *5 Year Strategic Asset Management Plan*, July 2007
- 6) Sinclair Knight Merz, 2004a, *Candowie Reservoir Augmentation: Stage 1 Report: Functional Design of Embankment and Spillway Augmentation*, May 2004
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Appendix A Futures Price of Electricity

Article from the Australian Financial Review of 16th January 2008.

Electricity futures lose some spark

Stephen Wisenthal

Queensland electricity futures prices have slumped more than 35 per cent in the past three months, increasing the opportunities for power retailers to vie for customers in a market that opened to competition last July.

Utilities, including NSW government-owned EnergyAustralia, CLP Holdings-owned TRUenergy and several smaller companies that had been planning to enter the Queensland market, scaled back or abandoned their plans as the cost of locking in electricity prices soared last year.

But summer rain in south-east Queensland has started refilling dams, reducing the chances that power plants will have to cut output because they cannot get enough water for cooling.

This has reduced the risk of power shortages, while electricity demand has dropped due to low summer temperatures.

The spot electricity price in Queensland has averaged \$39.45 a megawatt hour so far this month.

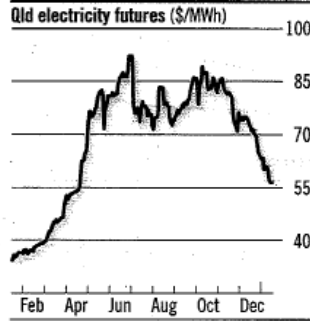
Contracts on the Sydney Futures Exchange that lock in Queensland power prices for all of 2008 rose as high as \$92 a megawatt hour in June, three times their price at the beginning of last year, as dam levels fell toward 17 per cent.

But they have fallen to \$56.24 a megawatt hour this week.

Power price futures for Victoria and NSW have also declined from their mid-2007 peaks, but have not dropped as steeply as Queensland prices.

The cost of locking in prices for 2008 in NSW is \$54.62 a megawatt

Sparking interest



hour, while Victorian 2008 futures are \$56.72 a megawatt hour.

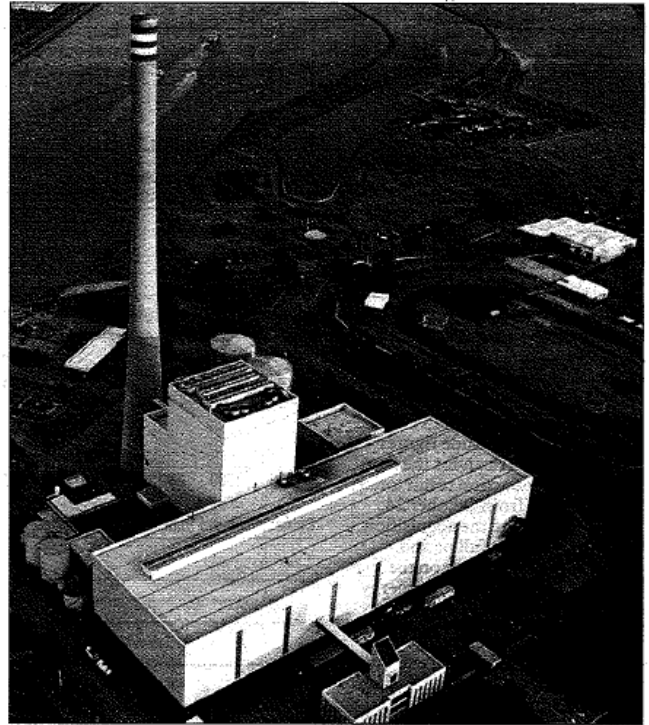
South Australian futures have bucked the trend, amid concern about generation capacity, rising to \$81.55 a megawatt hour this week, from \$45 a megawatt hour a year ago.

The slump in Queensland wholesale power prices increases the margins that are available to retailers.

AGL Energy and Origin Energy each spent \$1.2 billion last year to buy power retailers from the Queensland government.

They have each said they have hedged their electricity price exposure this year, although AGL's profit downgrade last year included a \$12 million reduction in earnings because of lower margins on sales to retail customers.

But the 18 per cent annual rate of "churn", or changing of supplier, by Queensland retail customers in December, indicates the state's market is becoming more attractive to utilities.



Low summer temperatures have reduced Queensland electricity demand. Photo: JAMES DAVIES

"Churn is a sign that there is more margin available," UBS analyst David Leitch said.

This was likely to bring back some of the big retailers that avoided Queensland when full competition started, he said.

But the tough credit market could hamper the efforts of smaller groups to gain the loan guarantees they needed.

Origin and AGL are both working to increase the proportion of their electricity sales that they generate themselves. Origin is spending \$1.3 billion to build a

630 megawatt power station near Dalby, fuelled by gas from its coal-seam methane fields.

And AGL has locked in electricity supply from a power plant that Queensland Gas is building on its coal-seam methane fields.

This reflects the longer-term outlook for rising electricity prices, as costs of fuel and new power plants increase.

"Some of the heat has gone out of the market," Mr Leitch said. "Over a three to five-year view there is still a lot of cost pressure on the generating sector."

Financial Review 16 January 2008