Expenditure Forecast Review for the Victorian Regional Urban Water Businesses

- EAST GIPPSLAND 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. East Gippsland 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 East Gippsland 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**

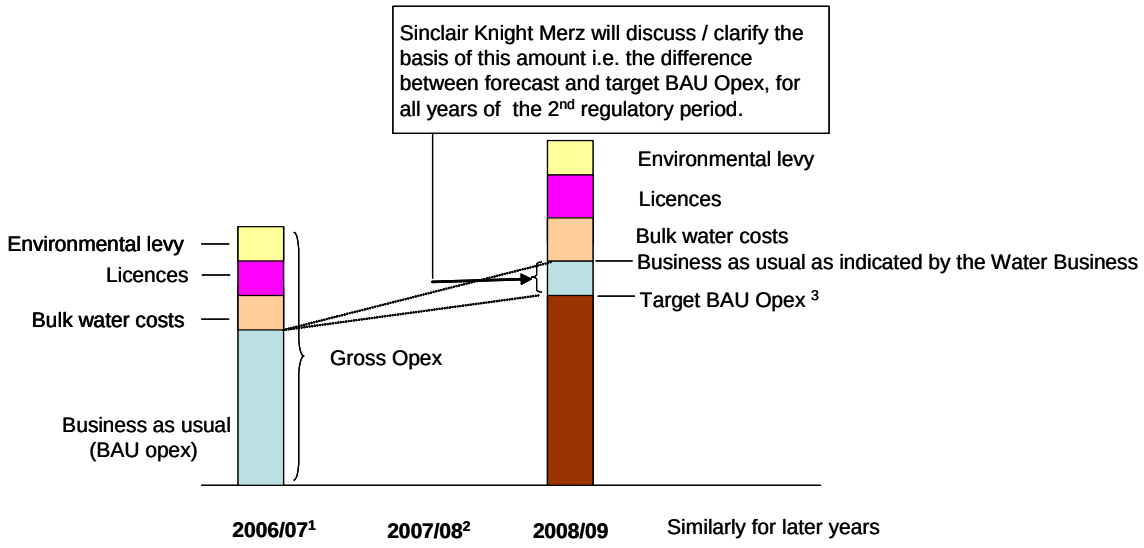
Where **A** is the Growth Adjusted Target BAU OPEX for year n;

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 East Gippsland 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 outs 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 with in 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**

	1st regulatory period			2nd 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 CO_2 offset and renewable energy oriented providers charging between $20 and $40 per tonne of CO_2 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 CO_2. 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** Error! Reference source not found.).

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. East Gippsland Water: Overview

The initial approach to the review of the Water Plan expenditure forecast for East Gippsland 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 East Gippsland Water on 6 December 2007 in the File Note titled "Water Plan – Operating and Capital Expenditure Review East Gippsland Water".

- Further more detailed examination and investigation of the key issues through:
  - A meeting and discussion of the expenditure forecasts and key issues with relevant East Gippsland Water personnel on 17 December 2007.
  - Further responses and the provision of further information by East Gippsland Water on 11 January 2008 in response to queries arising out of the meeting on 17 December 2007.
- Feedback received from East Gippsland Water on the preliminary recommendations outlined in the Draft Report dated 29 January 2008 and further discussions with East Gippsland Water to clarify any remaining issues through:
  - Further correspondence and discussion of the expenditure forecasts and key issues with relevant East Gippsland Water personnel;
  - Further responses and the provision of additional information by East Gippsland Water in response to the Draft Report and queries arising out of the further correspondence and discussions;
  - East Gippsland Water's written response to the Draft Report preliminary findings and recommendations.

4.1 Key Issues

Some of the key issues in relation to East Gippsland Water's expenditure forecasts are:

- The estimated average annual price increase for tariffs in East Gippsland Water's region, based inter alia on the CAPEX and OPEX forecasts submitted by East Gippsland Water is 5.41%.
- East Gippsland Water's forecasts over the second regulatory period are in aggregate - $56.2M for the Capex program and $62.72M for Opex.
- East Gippsland Water operates nine separate water supply systems. The dominant system however is the Mitchell Water Supply system which supplies the major towns in East Gippsland Water's supply area, namely Bairnsdale, Lakes Entrance, as well as a number of smaller towns. This system serves over 80 % of EGW's customers.

- East Gippsland Water has been significantly impacted by the fires which occurred in its catchments areas particularly during the summer of 2006/07. The fires, which were followed by heavy rainfall, led to massive introductions of silt into its water supply systems with a severe adverse impact on water quality delivered to consumers. This forced the introduction of emergency measures, most notably for the Mitchell Supply System, in order to maintain supplies. Many of these measures now need to be consolidated and augmented to prevent recurrence of this situation should further fires recur. This drives much of the Capex and new Opex in the forecast expenditure.
- East Gippsland Water has adopted targets related to sustainability including:
  - Maintaining its 100% water and biosolids reuse targets;
  - 25% reduction in per capita water use by 2015, increasing to 30% in 2020, consistent with other regions in Victoria;
  - Reduction in green house gas targets by 5% through a range of efficiency programs and or obtaining carbon credits for existing tree plantations.
- 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.

5. Capital Expenditure (Capex)

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

- **Table 5-1: East Gippsland 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		**6.30**	**17.21**	**16.83**	**29.61**	**15.36**	**4.45**	**3.32**	**3.43**
Gross capex - business as usual		6.30	17.21	16.83	29.61	15.36	4.45	3.32	3.43
Gross capex - new obligations					-	-	-	-	-
Approved 1st period gross capital expenditure		9.23	11.51	10.51					
Average annual 1st period capex	13.45								
Average annual 2nd period capex	11.23	Annual 2nd period capex is on average 16% lower than the 1st period							
Breakdown of business as usual gross capex									
Water headworks		0.05	0.15	0.52	0.04	0.03	0.03	0.02	0.03
Water pipelines / network		1.80	1.71	2.23	3.58	0.85	1.70	0.70	1.62
Water treatment		0.74	12.07	7.80	22.20	12.81	0.82	-	-
Water Corporate		0.56	0.47	1.35	0.65	0.54	0.78	0.65	0.49
Water sub-total		***3.15***	***14.40***	***11.89***	***26.46***	***14.23***	***3.32***	***1.37***	***2.13***
Sewerage pipelines / network		2.23	2.18	1.63	2.52	0.61	0.25	0.66	0.30
Sewage treatment		0.45	0.28	1.91	0.17	0.10	0.42	0.78	0.73
Sewerage Corporate		0.45	0.33	1.35	0.47	0.42	0.46	0.52	0.27
Sewerage sub-total		***3.15***	***2.81***	***4.93***	***3.16***	***1.13***	***1.13***	***1.95***	***1.29***
Bulk Water sub-total		-	-	-	-	-	-	-	-
Recycled water		-	-	-	-	-	-	-	-
Rural Water		-	-	-	-	-	-	-	-
Breakdown of BAU gross capex by cost driver									
Renewals					4.45	2.67	3.35	2.67	2.83
Growth					4.23	0.40	0.57	0.25	0.15
Improved service					0.94	0.43	0.43	0.23	0.38
Compliance					20.00	11.86	0.10	0.18	0.08
Government contributions					-	-	-	-	-
Customer contributions					-	-	-	-	-

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 $13.45M compared to actual annual average delivery of $10.4M over the first two years of the current water plan
- there is a pronounced peak to the Capex profile in 2008/09; and
- capital expenditure in the fourth and fifth years of the capital program is relatively low.

East Gippsland 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 their capital works program as:

- Local contractors are used on most East Gippsland Water jobs and are expected to feature prominently in tendering/sub-contracting in the second period regulatory program;
- East Gippsland Water has examined procurement options for delivery of its Mitchell River Water Supply Strategy works in order to manage the risk of not obtaining tenders and/or sufficient resources to undertake the works; and

- East Gippsland Water has made potential contractors aware of its Mitchell River Water Supply Strategy well in advance of procurement.

Not withstanding the above, the review team considers that there may be opportunity to smooth the capital program (both from a practical viewpoint and also acknowledging the potential risks to delivery of its projects in the timeframes envisaged in the current market environment). It has therefore made recommendations to lengthen programs for some key projects as discussed in the following sections. The recommendations of the review team do not reflect a difference in opinion regarding the need for the projects, but rather the availability of resources to procure the projects.

5.2 Key Projects

East Gippsland Water's Water Plan forecasts $56.17M of capital expenditure over the regulatory period. The top five projects which make up nearly $41.7M (over 74%) of this are listed in **Table 5-2.**

Table 5-2: East Gippsland Water: Key Capital Projects

Expenditure in $ 000's real (1/1/07)	1st period	SECOND REGULATORY PERIOD						% of total Capex
	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13	Total	
Capital Expenditure								
Key projects								
Mitchell River Water Supply Strategy Works	-	22,650	13,002	1,485	100	1,015	**38,252**	***68%***
Kalimna West Water Supply	-	450	-	-	-	-	**450**	***1%***
Bogong Street and Capes Road HL System	-	385	-	-	-	-	**385**	***1%***
Barinsdale Wastewater Treatment Plant Upgrade	-	-	-	-	100	150	**250**	***0%***
Tambo Bluff and Banksia Peninsula Sewerage Schemes	-	2,380	-	-	-	-	**2,380**	***4%***
Total	**-**	***25,865***	***13,002***	***1,485***	***200***	***1,165***	**41,717**	***74%***
% of total Capex in the financial year indicated		87%	85%	33%	6%	34%		

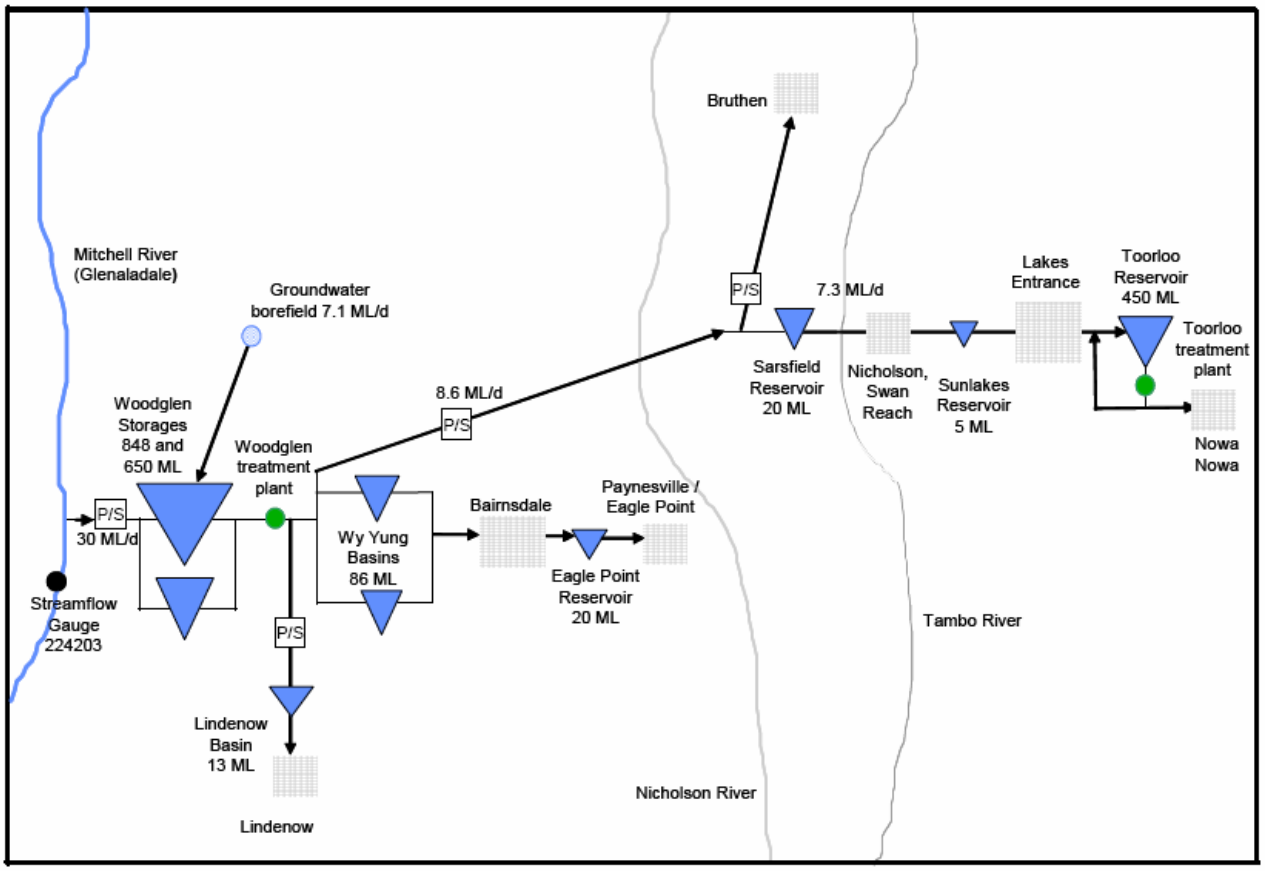
5.2.1 Mitchell River Water Supply Strategy

The Mitchell Water Supply System Augmentation (MWSSA) is the key project that East Gippsland Water plans to undertake during the second regulatory period. It drives both Capex (comprising 68% of capex in the 2nd regulatory period) and Opex (where expenditure comprises over 40% of additional Opex proposed).

The driver for the augmentation of the scheme is the need to assure the water quality delivered to consumers (and meets ADWG guidelines). This is to be achieved largely by the provision of two new water treatment plants.

The supply system is illustrated in the diagram in **Figure 5-1.**

- **Figure 5-1: Schematic Diagram of the Mitchell Supply System(Source EGW, 2007)**



The purposes of the project are to improve the quality and security of supply to the East Gippsland Region including Lakes Entrance and Bairnsdale. It is the largest project on East Gippsland

Water's capital program and represents 68% of gross capital expenditure over the second regulatory period. The project will cost approximately $38M and will include the provision of infrastructure as follows:

- Construction of an additional 640 ML raw water storage facility at Woodglen ($9.56M);
- Construction of a 20 ML/day water treatment plant at Woodglen ($16.7M);
- Construction of a 10 ML/day water treatment plant at Toorloo ($5.6M);
- Replacement of Sarsfield water storage with tanks ($2.0M);
- Replacement of Sunlakes water storage with tanks ($1.1M);
- Upgrade Sarsfield main supply pipeline ($1.6M);
- Upgrade Eagle Point main supply pipeline ($1.0M); and
- Upgrade Eagle Point tanks ($1.0M).

The project has evolved in concept since the initial planning commenced circa November 2003. Various water source options have been considered, including use of water from the Nicholson River (instead of the Mitchell River) and reducing demand. Over the maturation of the project various sub-options have also been considered and re-considered for various elements of the scheme.

East Gippsland Water has provided further supporting information with respect to the purposes of the project:

- Water Quality: The present water supply system provides for disinfection only and the quality of the water supply is affected by high turbidity, risk of cryptosporidium outbreaks and potential algal blooms. The water supply catchment is degraded because of agricultural (e.g. cattle) and residential development and the water quality is adversely affected by the run-off from these agricultural areas and septic tanks. There has also been further significant degrading of the water quality of catchment run-off due to the impacts of the recent bush fires. Issues with water quality have been identified as chronic taste and odour problems, a history of blue green algae outbreaks and turbidity levels above ADWG recommended levels of 1 NTU (EarthTech, 2003).
- Security of Supply: Average annual demand in the Mitchell River System is 4,700 ML/year, including unaccounted for water comprising about 12 % of demand. This demand is projected to grow to approximately 5,000 ML/year by the end of the second regulatory period. Current monthly demand ranges between 300 ML/month in June and 500 ML/month in January. The amount of water that East Gippsland Water is allowed to extract from the Mitchell River is limited to an annual cap and by a requirement to ensure that a minimum passing flow is maintained.

The review team considers that this project is strongly justified based on the twin objectives of improved water quality and security of supply. Various documents have been reviewed to assess the linkage between the infrastructure proposed and purposes of the project. The function of the various assets is understood to be as follows:

- Woodglen reservoir: The increased storage enables East Gippsland Water to extract water when it is available subject to passing flow and raw water quality constraints.
- Woodglen treatment plant: Treats the raw water to a quality to comply with the current Australian Drinking Water Guidelines.
- Toorloo treatment plant: Re-treats the water (originally supplied from Woodglen treatment plant) because the water has been stored in the open Toorloo reservoir. Toorloo reservoir cannot be converted to a closed tank, because a large volume of water is still required to meet the Lakes Entrance water demands.
- Sarsfield, Sunlake and Eagle Point Tanks: Treated water is to be stored in closed tanks and not in open storages to avoid the need for re-treatment.
- Sarsfield & Eagle Point Mains: Mains required for a combination of hydraulic and asset management reasons.

The review team was provided with demand information and reports that clearly justified the size/capacity of the infrastructure proposed. However for the key infrastructure (Woodglen Storage, Woodglen WTP and Toorloo WTP), the review team was not able to sight a report that explained the linkage between these two sets of data. EGW provided a report that explained the linkage between the sizing for the Sarsfield, Sunlake and Eagle Point tanks and their associated demands. This report further indicated the extent of hydraulic modelling undertaken in establishing the sizing of the key infrastructure, although it did not provide the details of the sizing assessments.

Key functional requirements of the proposed system appear to be:

- Storage - approximately 3 months of storage at peak summer demands;
- Combined capacity of the treatment plants - approximately equal to the peak day demand of the system.

The review team considers that key functional requirements are reasonable and that the project and the proposed infrastructure are appropriately justified.

Project Cost Estimate: The cost of the Woodglen WTP is equivalent to approximately $835K per ML/D. Given the specifics of raw water quality and its variability and the specific treatment facilities required to meet the ADWG guidelines, the review team considers that the cost estimate is reasonable.

The cost of the Toorloo WTP is equivalent to $560K per ML/D which is above the top end of a typical cost range of $250K per ML/D and $500 per ML/D considered reasonable by the review team for a plant of the type proposed. The review team discussed this issue with EGW and it advised that the cost of the WTP appeared reasonable in comparison to the capital cost for the Woodglen WTP (which is approx. $835K per ML/d). However, the review team considers that the quality of water being treated at Toorloo WTP (which stores water in an open basin that has been supplied via Woodglen WTP) is significantly better than the quality of water being treated by Woodglen WTP and this makes the comparison problematic. However, the review team does not propose to adjust the cost of this item, because it considers within the accuracy of the estimate of the entire scheme that the higher than expected cost is not significant.

The cost of the Woodglen storage is equivalent to $16.7K per ML which is above the top end of the typical cost range for uncovered, clay lined earthen basins of this size (of between $5K per ML to $15K per ML). The cost estimates for the new tanks at Sarsfield appear lower than in the supporting documentation provided by EGW. The costs estimates for the other tanks could not be cross checked against any supporting documentation but appear reasonable.

Project Timing: The review team has assessed the deliverability of the project based on the information supplied and understands that it is East Gippsland Water's intention to start construction in the 2008/09 financial year. The review team considers that elements of the project are between an advanced planning stage and functional design stage, whilst other elements are in an approval or procurement preparation phase.

EGW advises that it has undertaken extensive planning for the development of the overall program of works, which commenced more than five years ago. Planning by EGW has included Gateway Reviews (involving the DTF Gateway Unit), appointment of EPS Consultants as independent expert advisers on program development (including extensive processes and workshops to develop project risk, procurement and consultation strategies). These processes have informed the Business Case development, which is currently with DTF and DSE for formal approval (which was due on 15 February 2008 and is expected shortly).

EGW advises that the overall program of works is advanced, with a number of associated projects (to cover open earthen storages or install tanks) completed or under construction. Progress on the Woodglen and Toorloo projects are advancing, with site procurement (land purchase), planning permits, flora and fauna and aboriginal heritage approvals well advanced. The 'Expression of Interest' process for the Woodglen WTP is finalised and the next steps will be to request tenders from selected providers. Preliminary site works have been completed. EGW advises that at this stage, these steps are on or ahead of program.

EGW advises that based on the rigorous and extensive planning and preparation undertaken, the involvement of a wide range of stakeholders in this process and the expert advice involved that it is fully confident in the program provided and that its Board is fully committed to the program as a major water quality risk management control.

The specific tasks identified as having recently being completed by EGW (as noted in its progress report supplied to the review team) include:

- A business case was submitted to DSE / DTF on 19 December 2007 and approval was programmed to be obtained by 15 February 2008. It is anticipated that approval will be given shortly.
- Land has been purchased for the Woodglen WTP and a compulsory acquisition notice has been served in relation to land required for Toorloo WTP.
- A planning permit has been issued for Woodglen WTP and a planning permit application was lodged for Toorloo WTP on 3 February 2008.
- Aboriginal Cultural Heritage studies have been conducted at the Woodglen WTP and Toorloo WTP sites and it is not expected that a CHMP will be required at either site.
- Initial Flora and Fauna studies have been completed and further studies have been proposed because several flora and fauna species listed as 'protected' may be found on site.

Design and procurement preparation is occurring in parallel with the above investigations. The review team considers that EGW is addressing all of the issues required to deliver the project.

EGW consider that the major risks to the timing of the project relate to weather and contractor availability. A publicly advertised expression of interest for the project recently closed and EGW received approximately 8 responses, including responses from a number of invited tenderers and the risk of contractor availability appears not to be such a significant issue. The review team considers that the current program is tight and does not allow for any unforeseen events. However, the review team considers that the project is achievable.

EGW plans to spend 59 percent of the overall project expenditure in year 2008/09 and 34 percent in year 2009/10 (or as a proportion of the bulk of the expenditure in the first two years of 63.5% and 36.5% respectively). The capital program is generally consistent with the construction occurring equally over the 2008/09 and 2009/10 financial years and the review team recommends that the planned expenditure be adjusted to reflect the program supplied by EGW.

The review team considers that this expenditure profile is optimistic and that allowing time for ramp up of expenditure early in the 2008/09 that a more realistic split of expenditure would be 50%/50% in 2008/09 and 2009/2010 (as a proportion of the total expenditure contemplated in the

first tow years of $35.65M). This is consistent with what happens on mot projects given the status of the project at present.

In summary, the review team considers that in broad terms the capital expenditure for this project is prudent and reasonable but recommends that the capital expenditure be adjusted as indicated in **Table 5-3.** These adjustments reflect the timing outlined in this section but with re-profiling of the expenditure proposed by EGW.

5.2.2 Kalimna West Water Supply

The Kalimna West Water Supply works have been incorporated into the Mitchell River Water Supply Strategy which is discussed immediately above.

5.2.3 Bogong Street and Capes Road HL System

The Capes Road water supply system supplies a high level area in Lakes Entrance. The water supply system needs to be upgraded to accommodate growth, service new high level properties (to meet pressure requirements) and replace equipment that is nearing the end of its useful life. The project involves the construction of a new variable speed pumping station and the upsizing of elements of the Capes Road area reticulation network.

The review team considers that the project is justified and the capital expenditure proposed ($385K in 2008/09) is prudent and reasonable. No expenditure adjustments are recommended.

5.2.4 Bairnsdale Treatment Plant Upgrade

The Bairnsdale Sewage Treatment Plant treats the sewage generated from Bairnsdale and discharges effluent to the Macleod Morass which has wetland flora and fauna values and forms part of the Gippsland lakes RAMSAR Site. Management of the effluent and recent increases in inflows to the plant led East Gippsland Water to develop a long term plan for the upgrade of the facility. EarthTech completed a review in January 2004. Its analysis suggests that sewage flows will increase from 3.6 ML/D at 2003 to 4.1 ML/D by 2013. East Gippsland Water's Water Plan allows a notional $250K for upgrades in the final two years of the regulatory period.

The review team considers that this notional allowance for the upgrade of the plant is prudent and the cost estimate reasonable given the scope of upgrade facilities likely to be required to deal with the extent of growth anticipated and the RAMSAR issues associated with management of the plant effluent and its quality. No expenditure adjustments are recommended.

5.2.5 Banksia Peninsula Sewerage Scheme

The Banksia Peninsula Sewerage Scheme is to be a pressure sewer scheme consisting of 10.5 km of reticulation pipe, 35 connections, 25 on-site pumping stations and 1 off-site pumping station.

The sewering of country towns, including Banksia Peninsula, is required under East Gippsland Water's statement of obligations. East Gippsland Water advises that the effect on the environment of the septic tanks has not been conclusively established, but that sewage from septic tanks which are close to the shoreline of Lake Victoria in sandy soils may find its way into the Gippsland lakes and contribute to increased algal bloom risk. East Gippsland Water advises that it is currently undertaking a significant consultation process with the local community. Therefore EGW considers that it now has statement of obligation, environmental and community needs requiring the completion of the project.

A number of options have been considered to sewer Banksia Peninsula, including STEP and Pressure Sewer Systems. Various discharge points for the reticulation network were also considered. One discharge location required a 500 metre crossing beneath a lake and the other discharge location required a longer length of outfall sewer. East Gippsland Water has decided to proceed with construction of a pressure sewer system that has a discharge location which avoids having to bore beneath the Gippsland Lakes. This was the lowest cost option on a present value basis and was also considered to be the option with the lowest construction risk.

The Banksia Peninsula report contains detailed and rigorous cost estimates for all four options (based on a schedule of rates). The report allows 20 percent for survey, geotechnical and administration. The estimated cost of the scheme is $1.63 million. The cost of the 10.5 kilometre pipe network is approximately $640K and therefore has a unit cost of $60 per metre. The reticulation network ranges in size from 50 mm to 125 mm. The predominant size of pipe is 125 mm. The cost of the on site pump stations is approximately $7,500 per unit. The cost of the off site pump station is approximately $200K.

On balance the review team considers that it would be desirable to undertake this project (and/or the Tambo Bluff sewerage scheme) early in the regulatory period so that commitments to the community are met. Attempting to construct the project at a later date could be highly inefficient if community support was to diminish. Furthermore, the project is well advanced with significant expenditure on materials already having occurred to date.

The review team considers that:

- the options assessment is thorough and EGW's preferred option is appropriate, the most cost efficient and least risky option.
- the cost estimate at $1.63M for the scheme is reasonable or potentially at the low end of the expected range (particularly with respect to the pipe network and the off-site sewage pumping station). The review team also notes that the cost estimate for this project as indicated in East Gippsland Water's Water Plan is only $1.18M and this is because approximately $0.45M will be spent prior to the second regulatory period.

The review team considers that the project is justified and that, at this stage, the expenditure proposed (based on the estimates contained in the EarthTech report) is reasonable. No expenditure adjustments are recommended.

5.2.6 Tambo Bluff Sewerage Scheme

The Tambo Bluff sewerage scheme involves the sewering of a small country town on septic tanks for environmental and statement of obligation drivers. The cost estimate has been prepared by EarthTech on a similar basis as for the Banksia Peninsula scheme. The review team considers that the project is justified and the expenditure estimate is reasonable. There is again a discrepancy between the supporting documentation and the Water Plan. In this case it may be the result of land development allotment restructures requiring the sewering of additional properties.

As for the Banksia Peninsula scheme, the review team considers on balance that it would be desirable to undertake this project (along with the Banksia Peninsula sewerage scheme) early in the regulatory period so that it does not overlap with the peak expenditure associated with the MWSSA project(s).

The review team considers that:

- the options assessment is thorough and EGW's preferred option is appropriate, the most cost efficient and least risky option.
- the cost estimate at $2.11M for the scheme is reasonable or potentially at the low end of the expected range (particularly with respect to the pipe network and the off-site sewage pumping station). The review team also notes that the cost estimate for this project as indicated in East Gippsland Water's Water Plan is only $1.2M and this is because approximately $0.9M will be spent on the scheme before the start of the second regulatory period.

The review team considers that the project is justified and that, at this stage, the expenditure proposed (based on the estimates contained in the EarthTech report) is reasonable. No expenditure adjustments are recommended.

5.3 Recommendations

The recommendations on adjustments to East Gippsland Water's capital expenditure forecasts for the five year regulatory period are summarised in **Table 5-3**. The key feature is that:

- East Gippsland Water review the timing of expenditure on the Mitchell River Water Supply Augmentation (MWSSA) works to establish expenditure profiles which are more realistic and consistent with programs developed.

Table 5-3: East Gippsland Water: Preliminary Recommended Adjustments to Regulatory Capital Expenditure Forecast

Change Item	Project/Description		$M						
			2007-08	2008-09	2009-10	2010-11	2011-12	2012-13	Later Period
1	Mitchell River Water Supply Strategy	Original Water Plan Forecast:		22.65	13.00	1.49	0.10	1.02	
		Recommended Revised Forecast:		17.80	17.80	1.53	0.10	1.02	0.00
		Recommended Net Change:		-4.85	4.80	0.04			
Total Recommended Net Change:			$ -	$ (4.85)	$ 4.80	$ 0.04	$ -	$ -	$ -
Original Water Plan Total Regulatory Capex:				$ 29.61	$ 15.36	$ 4.45	$ 3.32	$ 3.43	$ -
Recommended Revised Total Regulatory Capex:			**$ -**	**$ 24.76**	**$ 20.16**	**$ 4.49**	**$ 3.32**	**$ 3.43**	**$ -**

6. Operating Expenditure (Opex)

The upper part of **Table 6-1** presents a breakdown of forecast operating expenditure by cost driver. The lower part of **Table 6-1** shows the increases (or decreases) 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 salaries and consultancies is a key driver of the net total increased operational expenditure (of $6.06M) for the second regulatory period relative to actual expenditure in 2006/07 are:

- Salaries ($4.68M or 77% of the net total increase);
- Other ($1,57M or 26% of the net total increase); and
- Consultancies ($1.48M or 24% of the net total increase).

Note that these increases are offset by a decrease in operating expenditure on maintenance contractors - $3.29M or -54% of the total net increase. The “other” expenses relate primarily to corporate costs.

The forecast increase in expenditure for consultancies and chemicals (from 2010/11) is mainly related to the augmentation of the Mitchell Water Supply Scheme.

Table 6-1: East Gippsland: Historical and Forecast Operating Expenditure by Cost Driver

Expenditure in $ 000 real (1/1/07)	FIRST REG PERIOD		SECOND REG PERIOD					SECOND REG PERIOD	
	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13	Total	%
Chemicals	326	338	280	287	452	464	476	1,960	3%
Consultancies	63	110	357	377	419	369	274	1,796	3%
Electricity	658	694	740	757	886	901	914	4,199	7%
Maintenance contractors	2,361	2,536	1,714	1,685	1,710	1,727	1,683	8,519	14%
Salaries	4,956	5,467	5,576	5,621	5,925	6,131	6,208	29,461	47%
Other	2,319	2,588	2,454	2,523	2,667	2,758	2,764	13,166	21%
Environmental Contribution	590	590	665	665	665	665	665	3,325	5%
Total	**11,273**	**12,322**	**11,785**	**11,915**	**12,725**	**13,015**	**12,985**	**62,425**	**100%**

Expenditure increase above 2006/07 Expenditure in $ 000 real (1/1/07)	FIRST REG PERIOD		SECOND REG PERIOD					SECOND REG PERIOD	
	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13	Total	%
Chemicals	-	12	(46)	(39)	126	138	150	330	5%
Consultancies	-	47	294	315	356	306	212	1,483	24%
Electricity	-	36	82	99	228	243	256	909	15%
Maintenance contractors	-	175	(647)	(676)	(651)	(634)	(678)	(3,286)	-54%
Salaries	-	511	620	665	969	1,175	1,252	4,681	77%
Other	-	268	134	203	348	438	445	1,569	26%
Environmental Contribution	-	-	75	75	75	75	75	375	6%
Total	**-**	**1,049**	**512**	**642**	**1,452**	**1,742**	**1,712**	**6,060**	**100%**

NOTE: There are discrepancies in the aggregate/gross operating expenditure for each of the years of the regulatory period as indicated in this table (**Table 6-1**) and as indicated for the same years in **Table 6-2** based on EGW's submitted Water Plan. These differences total $55K/year in years 2008/09 to 2010/11, and $65K/year in the last two years of the second regulatory period. They comprise farm operating expenditure ($40 to $50K/year), site tower rental ($5K/year) and effluent reuse agreements ($10K/year).

6.1 Derivation of the Variance from Target BAU Opex

Table 6-2 below summarises East Gippsland Water's forecast operating expenditure and shows the derivation of the Variance to Target BAU Opex in the manner explained in **Section 2.**

- **Table 6-2: East Gippsland 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	10.05	10.66	11.56	11.02	11.20	12.01	12.20	12.27
New obligations				0.10	0.05	0.05	0.15	0.05
Sub-total Opex	***10.05***	***10.66***	***11.56***	***11.12***	***11.25***	***12.06***	***12.35***	***12.32***
Bulk water charges	-	-	-	-	-	-	-	-
Licence fees	0.05	0.04	0.05	0.06	0.06	0.06	0.06	0.06
Enviro levy	0.56	0.57	0.59	0.67	0.67	0.67	0.67	0.67
Gross operating expenditure	**10.66**	**11.27**	**12.20**	**11.84**	**11.97**	**12.78**	**13.08**	**13.05**
Target BAU Opex			**10.70**	**10.77**	**10.84**	**10.90**	**10.96**	**11.01**
Variance from Target BAU Opex			**0.86**	**0.34**	**0.41**	**1.15**	**1.40**	**1.31**
Customers and Consumption								
Total customers ('000)	23.03	23.39	23.71	24.11	24.51	24.90	25.28	25.65
Growth relative to 2006-07		1.00	1.01	1.03	1.05	1.06	1.08	1.10

The aggregate planned operating expenditure (excluding bulk water charges, licence fees and Environmental Contribution) over the whole of the second regulatory period is greater than Target BAU Opex. That is the Variance from Target BAU Opex is positive for each year of the regulatory period, and requires explanation. This indicates that there are real increases in planned operating expenditure above BAU (2006/07 as the base year) after allowance for growth and the stipulated 1% productivity improvement. Thus prima facie EGW will not achieve the 1% productivity target unless all of the new/additional costs planned can be justified as part of the future BAU Opex base.

6.2 Explanation of the Variance

6.2.1 Overview

East Gippsland Water advised the review team of a number of costs expected to be incurred during the regulatory period that it regarded as additional to the normal BAU Opex incurred in 2006/07. The key items put forward by East Gippsland Water to explain the variance are listed in **Table 6-3**. This table reflects some differences to that originally submitted and evaluated in the Draft Report (and which arose out of discussions on that report). The key differences are:

- The labour component of the Mitchell Water Supply Augmentation Scheme has been separately identified and removed from the overall scheme costs;
- Labour on-costs which were previously omitted have been included.

Furthermore the discussions with East Gippsland Water also revealed that two additional items should be included to the list. These two items are shown at the bottom of the **Table 6.3**.

The list of items/activities is sorted from most to least expensive. The variance explained in **Table 6-3** is marginally greater than the actual variance presented in **Table 6-3** for each year of the regulatory period (i.e. if justified would fully explain the Variance from Target BAU Opex). For the second regulatory period, the aggregate excess in explaining the Variance to Target BAU Opex is $1,224M. An initial assessment of EGW's new/additional cost line items is provided in the following sections.

Table 6-3 Explanation of Variance to Target BAU Opex provided by East Gippsland Water

Description	Movement in Expenditure relative to 2006/07 ($ 000 - real Jan 2007)					
	2008/09	2009/10	2010/11	2011/12	2012/13	Total
Increased costs with introduction of MWSSA projects			494	494	494	1,482
EBA increases > inflation / Executive Management	85	95	105	115	125	525
Human Resources Position	80	80	80	80	80	400
Asset Management Postion	80	80	80	80	80	400
Water Treatment Plant Operators			70	140	140	350
Electricitiy Increases Expected			100	100	100	300
4 New Water Treatment Plants - Treatment Cost Increases	50	50	50	50	50	250
Increased Licence Analysis Fees (30% Increase Sept 2007)	50	50	50	50	50	250
New Finance / Billing yearly SLA / Maintenance Fee Increases	40	40	40	40	40	200
Increase in Demand Management Expense	25	25	25	25	25	125
Printing Costs (Newsletters with all acounts)	20	20	20	20	20	100
Water Supply Demand Strategy					50	50
Rate Collection Fees	10	10	10	10	10	50
Land & Buildings Revaluation				30		30
Staff Bench Marking				30		30
Insurance Increases	5	5	5	5	5	25
Fitch Ratings Assessment				20		20
Total	**445**	**455**	**1,129**	**1,289**	**1,269**	**4,587**
Variance from Target BAU Opex	343	407	1,154	1,396	1,314	4,613
Difference	**102**	**48**	**(25)**	**(107)**	**(45)**	**(26)**
Additional costs advised by EGW but not included in Table submitted						
Water Treatment Plant Manager	100	100	100	100	100	500
Additional Executive Manager	150	150	150	150	150	750
Grand Total	**695**	**705**	**1,379**	**1,539**	**1,519**	**11,554**
Variance from Target BAU Opex	343	407	1,154	1,396	1,314	4,613
Difference	**352**	**298**	**225**	**143**	**205**	**1,224**

6.2.2 Increased cost associated with the MWSSA Projects

The Mitchell Water Supply System Augmentation (MWSSA) is the key project that East Gippsland Water plans to undertake and it drives over 40% of additional Opex proposed.

The scheme is discussed in **Section 5.2.1**.

The following points are relevant to the expenditure forecasts for this item:

- The primary source of water is the Mitchell River via the Glenadale Pump Station. This was augmented by a groundwater supply (five bores) as part of the emergency measures introduced after the bushfires.
- The Woodglen and Toorloo Reservoirs are the two major storage components in the system. The Toorloo Reservoir however is drawn upon intermittently, generally at times of high system demand. At these times the pipeline downstream of Sunlakes Reservoir is closed and Lakes Entrance and adjacent towns are supplied from Toorloo Reservoir. Toorloo Reservoir is more prone to water quality issues, particularly outbreaks of algae, than Woodglen Reservoir, where such events were of little concern prior to the bushfires.
- The towns downstream of Sarsfield Reservoir can also be supplied from the Nicholson River. Water from the Nicholson River is high in colour and is only used in extreme drought.
- Until recently, when the emergency measures had to be introduced, treatment consisted of disinfection only. The delivery capacity at Glenadale combined with the system storage capacity allowed selective pumping to occur, thus effectively allowing cessation of abstraction, or bypassing, during events of poor source water quality. Historically water sourced from Glenadale was usually of a high quality as the upstream catchment is largely natural (i.e. undeveloped).
- Key components of the new infrastructure planned as part of the MWSSA and influencing operational expenditure are as follows:
  - Construction of a 20 ML/day water treatment plant at Woodglen; and
  - Construction of a 10 ML/day water treatment plant at Toorloo.
- These works form part of an overall water quality improvement strategy developed in 2003. (Ref (4) EarthTech, 2003).
- If completed on schedule East Gippsland Water expects the new water treatment plants to become operational in July 2010. This issue is further discussed in **Section 5.2.1**. The review team considers that the program is tight but achievable, and notes the high priority assigned to the project by EGW and the determination evident to deliver the project on time. No amendment is proposed to the timing of forecast expenditure.

- Average annual demand in the Mitchell River System is 4,700 ML/year, including unaccounted for water comprising about 12 % of demand. This demand is projected to grow to approximately 5,000 ML/year by the end of the second regulatory period.
- The estimated cost of operation of the Woodglen WTP totals approximately $550K p.a. equating to almost 12c/kL (for 4,700 ML/year throughput). These costs comprise power (12%), chemicals (30%), labour (20%), operations and maintenance (35%), sludge disposal (3%). The basis of determining these costs and the cost quantum is considered reasonable.
- The unit cost of the Toorloo plant is marginally higher. This plant is planned to operate on a seasonal basis operating at times of the summer peak demand. The volume to be treated may be forecast with less certainty than that for Woodglen. East Gippsland Water has assumed the annual throughput will be 700 ML/year, which is considered reasonable. The operating cost therefore is approximately $84K/year.
- The cost put forward by EGW has been reduced relative to that originally put forward in the draft report by $140K /year – this being the labour component.

In summary, the annual quantum of the increased costs forecast by East Gippsland Water for the MWSSA are considered appropriate, necessary and prudent; and form part of the justifiable explanation of the Variance to Target BAU Opex. No amendment is proposed to the timing of commencement of the forecast additional expenditure (although the review team still considers that there is some risk that the commencement may be delayed up to 6 months into the 2010/11 year and/or the full quantum of the increase will not occur in the this first year of operation).

6.2.3 Additional Staff

East Gippsland Water employed a number of additional staff in 2007/08 and intend to take on further staff during the regulatory period.

The overall cost of staff and number of fulltime equivalent employees, and the percentage labour on-cost allowed by East Gippsland Water is shown in **Table 6-4.**

- **Table 6-4: Overall Staff Costs and Numbers**

Description	First reg.period		Second regulatory period					% for on-costs
	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13	
Total labour cost ($000)	4956	5467	5576	5621	5925	6131	6208	41.75%
Total number of labour and staff	75	79	79	79	81	82	82	
Average cost of labour and staff ($000/year)	66.08	69.20	70.58	71.15	73.15	74.77	75.71	

The review team considers that the on-cost allowance of 41.75% is high for purposes of explanation of the variance, as discussed in **Section** Error! Reference source not found.**.** East

Gippsland Water include allowances for annual leave, sick leave, fringe benefit tax and "other leave" (family / bereavement leave) which have been excluded by the review team in assessing costs explaining the variance to Target BAU Opex.

The additional staff employed in 2007/08, or planned to be employed during the second regulatory period, are as follows:

- 2007/08:
  - Executive Manager – a new position reporting to the CEO allowing the operations and infrastructure management positions to be split;
  - Water treatment operator – for the new WTPs;
  - Asset management officer;
  - Human resource officer;
  - The total annual cost of the above personnel, inclusive of 20% on-costs, is $326K/ year (in $2007/08).
- Second regulatory period
  - Water treatment manager (from 2008/09) –employed for the MWSSA and brought on-line to assist in managing infrastructure development and manage the WTP operator;
  - Water treatment operator (from 2010/11) – for MWSSA
  - Water treatment operator (from 2011/12) – for MWSSA.

The additional positions are all considered reasonable and necessary in the context of EGW's business and the new facilities to be brought on line during the regulatory period. In particular the asset management position is necessary and prudent given the need and scope for improvement in EGW's asset management systems performance. The quantum of expenditure is reasonable and is at the lower end of the expected range for such positions.

The review team considers that the costs claimed are reasonable, excepting the on-costs which have been scaled back from 41.75% to 20%. These costs are further discussed in **Section 6.2.4** below.

In summary in respect of the additional staff the recommendations of the review team are:

- Costs of staff employed in 2007/08 (listed above) be consolidated as a single item, adjusted downwards to account for reduced on-cost allowance, and increased at a rate of 1.25% per annum;
- The costs for the water treatment manager, escalating at 1.25% per annum, be included as part of the explanation of the variance (this item was not included by EGW in **Table 6-3**), and likewise the water treatment operators to be employed to operate the MWSSA.

6.2.4 EBA Increases Greater than Inflation

As discussed in **Section** Error! Reference source not found. labour costs (excluding costs associated with new positions) that exceed CPI plus 1.25% are not regarded as contributing to the explanation of the variance. This is principally because it is expected that such costs should be offset by EBA productivity improvements or otherwise should be absorbed. Furthermore, as discussed in **Section** Error! Reference source not found.**,** the maximum allowance considered reasonable to be included for on-costs is 20%. An analysis of EGW's salaries cost is presented in **Table 6-5**.

- **Table 6-5: Analysis of Salaries Cost**

Item	Description	Forecast Expenditure/ Movement ($ 000 - real Jan 2007)					
		2008/09	2009/10	2010/11	2011/12	2012/13	Total
1	Salaries - as per Table 6-1	5,576	5,621	5,925	6,131	6,208	**29,461**
2	Deduct new positions identified as "additional"	5,076	5,106	5,336	5,466	5,526	**26,509**
3	Salaries adjusted by CPI + 1.25% (1.25% pa adjustment for real, with base as $4956K in 2006/07)	5,081	5,144	5,208	5,274	5,340	**26,046**
4	Staff employed in 2007/08	330	334	338	343	347	**1,692**
5	Water Treatment Plant Operators	-	-	59	120	122	**301**
6	Water Treatment Plant Manager	85	86	87	88	89	**434**
7	EBA increases > inflation / Executive Management	85	95	105	115	125	**525**
8	Maximum allowance (from line item 3)	125	188	252	318	384	**1,266**

The key lines in the above table are:

- Line item 3 is the total cost of salaries (excluding new positions post 2006/07) escalated assuming a 1.25% real increases from 2006/07 onwards
- Line items 4 to 6 provide a breakdown of the new positions regarded as "additional" and justifiable discussed in **Section 6.2.3**. These costs have been escalated at 1.25% per annum from the year of commencement.
- Line item 7 shows the amounts claimed by EGW in explanation of the variance based on assumed increases in labour costs.
- Line 8 shows the maximum allowance assuming 1.25% real increases upon the 2006/07 base. These costs are higher than those in line item 7 indicating that the latter are reasonable and prudent.
- The amounts in Line Items 4, 5, 6 and 8 have been transferred to **Table 6.7** as expenditure that the review team considers as being justifiable for explaining the Variance from Target BAU Opex.

6.2.5 Electricity Increases

In terms of the discussion presented in **Section 3.2.1** the additional electricity charges envisaged would be as shown in **Table 6-6** (item 2). This table also shows:

- Item 1: EGW's actual electricity cost base in 2006/07;
- Item 2: The allowance for forecast energy cost increases associated with energy price increases, as proposed by the review team based on **Section 3.1.1** both in percentage and $ terms. This allows for growth but not new demands (which are treated separately);
- Item 3: The energy cost increases claimed by EGW as justifying the Variance from Target BAU Opex (from **Table 6-3)** are shown in the first line of Item 3 (the review team needs to confirm with EGW that it has interpreted this correctly). The difference between the review team's estimate and that claimed by EGW is shown at the second line of Item 3; and
- Item 4: First line shows the energy expenditure increase proposed by EGW obtained from the breakdown of operating expenditure by key cost drivers, refer **Table 6-1.** The second line shows the energy expenditure increases proposed by EGW but excluding new demands, assumed to be the $90K p.a. energy component for the increased operational costs for the MWSSA. Fourth line shows the difference between the allowance that the review team proposes and that assumed by EGW (excluding new demands which are assessed separately).

Table 6-6: Additional Electricity Charges

Item	Description	Expenditure/Movement from 2006/07 ($ 000 - real Jan 2007)						
		2006/07	2008/09	2009/10	2010/11	2011/12	2012/13	Total
1	Base electricity cost (2006/07 expenditure) Growth factor (from water customer numbers)	658	1.03	1.05	1.06	1.08	1.10	
	Recommended real % electricity price relative to 2006/07 (Section 3.1.1)		12%	15%	15%	15%	15%	
	Increased costs attributable to increase tariffs		79	99	99	99	99	474
	Increase costs attributable to increased demand (excl MWSSA)		23	36	49	61	73	243
	Total costs recommended (excl MWSSA)		760	793	806	818	830	4,007
2	**Total increase in costs recommended (excl. MWSSA)**		**102**	**135**	**148**	**160**	**172**	**717**
3	Electricity increases expected by EGW		-	-	100	100	100	300
	Difference (item 3 - item 2)		**102**	**135**	**48**	**60**	**72**	**417**
	Expenditure increase above 2006/07 [Refer Table 6-1]		82	99	228	243	256	
4	**After** deducting electricity cost for MWSSA [Allowed for in Section 6.2.2]		82	99	136	151	164	633
	Percentage increases relative to 2006/07		12%	15%	21%	23%	25%	
	Difference (item 4 - item 2)		**20**	**36**	**12**	**9**	**8**	**84**

Note: It is assumed that the only new energy demands since 2006/07 through to the end of the second regulatory period are associated with the MWSSA projects which have been considered under **Section 6.2.2**.

The review team recommends that:

- For the purposes of justifying the Variance to Target BAU Opex, that energy cost increases of $102K (2008/09), $135K (2009/10), $148K (2010/11), $160K (2011/12) and $172K (2012/13) be adopted (i.e. Line Item 2 in **Table 6-6**) rather than zero in the first two years and $100K in each of the last three years of the regulatory period.

In making this recommendation the review team notes that there appears to be an inconsistency in the data put forward by East Gippsland Water which it has been unable to resolve. The inconsistency lies between the movement in forecast electricity costs (**Table 6-1**) and the electricity increases expected by EGW (line 3 in above table). It seems that there might be some double counting for the MWSSA scheme energy costs and/or unreasonably high real increases in energy costs are assumed for the last four years of the regulatory period.

6.2.6 Four New Water Treatment Plants – Treatment Cost Increases ($50K/year)

East Gippsland Water commissioned four new treatment plants which will commence full operation in 2007/08 for the communities at Buchan, Swifts Creek, Cann River and Bema River including the installation of dissolved air flotation (DAF) units at the sites mentioned. In addition a new pipeline was installed in 2007 (see **Figure 5-1**) to provide a pumped water supply to the community of Nowa Nowa.

The cost claimed infers a unit cost of treatment that is approximately three times higher than the proposed treatment plant at Woodglen. However the review team's view is that this cost is reasonable in aggregate for the four plants and on a unit cost basis given the small scale of the operations involved.

The review team considers that this increased expenditure is prudent, necessary and forms part of the justifiable explanation of the Variance to Target BAU Opex.

6.2.7 Increase Licence Analysis Fees ($50K/year)

EGW has an obligation in its Statement of Obligations (and the *Safe Drinking Water Act, 2003)* to monitor water quality supplied to consumers at a number of strategic locations. The costs claimed arise from the increased costs of water quality monitoring arising from three factors:

- Additional monitoring locations;
- Increased frequency of monitoring;
- Increased unit costs of laboratory analysis from service supplier.

The review team considers that this increased expenditure is prudent, necessary and forms part of the justifiable explanation of the Variance to Target BAU Opex.

6.2.8 New Finance / Billing yearly SLA / Maintenance Fee Increases ($40K/year)

EGW have introduced a new, improved billing system. The maintenance costs of the new software are higher than those for the previous system by approximately the amount claimed.

The review team considers that this increased expenditure is prudent, necessary and forms part of the justifiable explanation of the Variance to Target BAU Opex.

6.2.9 Increased demand management expense ($25K/year)

Although in general EGW has adequate water supplies there are two supply systems where supplies are stressed and where demand management is a cost effective means of improving the supply/ demand balance. In addition to focussing on these two water supply systems, EGW plans to undertake a range of water demand initiatives more broadly throughout its region in order to promote a consistent message to all its customers and promote sustainable use of resources. The strategies to be employed include installation of water efficient devices, such as showerheads, expanding the demand reduction program for large (industrial) consumers and expanding and intensifying the leakage reduction program (although the cost of this program is not included here).

The review team has not sighted the strategy that will guide the water demand management program and is concerned as to the prudence of the planned expenditure.

The review team considers that, while the cost quantum of increased expenditure is reasonable, this cost is either in the 2006/07 cost base, and/or is comprehended within the growth provision in setting the Target BAU Opex and/or could be reasonably considered as 'business as usual' and/or is not material.

Therefore the above cost is not considered to be justifiable in forming part of the justifiable explanation of the Variance to Target BAU Opex.

6.2.10 Minor items

A number of minor costs have also been claimed as follows:

- **Printing Costs (with all newsletters)** ($20K p.a.)
- **The Water Supply Demand Strategy** ($50K in 2012/13) - must be updated on a 5 year cycle;
- **Rate collection fees** (10K p.a.) - reflecting an allowance for increased effort for debt collection;
- **Land & building revaluation** ($30K) - to obtain market value appraisal of properties;
- **Staff bench marking** ($30K in 2011/12) - an intermittent cost, which did not occur in the base year and part of retaining quality staff;
- **Insurance increases** ($5K p.a.);
- **Fitch Rating Assessment (**$20K in 2011/12) – for a credit rating of the business.

The review team considers that the above costs are either in the 2006/07 cost base, and/or are comprehended within the growth provision in setting the Target BAU Opex and/or could be reasonably considered as 'business as usual' and/or are not material.

Therefore the above costs are not considered to be justifiable in forming part of the justifiable explanation of the Variance to Target BAU Opex.

6.2.11 Overall Assessment of Explanations of Variance to Target BAU Opex

The review has assessed the items put forward by EGW as justifying the Variance to Target BAU Opex in the five years of the regulatory period. Based on this assessment and the discussions with EGW as outlined in **Sections 6.2.2**to **6.2.10,** the review team's final view of the costs contributing to the explanation of the Variance from Target BAU Opex is summarised in **Table 6-7.**

The review team notes that:

- Based on the assessment discussed in **Sections 6.2.2**to **6.2.10** and **Table 6.7**, the Variance to Target BAU Opex is fully explained and justified in every year of the second regulatory period (and therefore in aggregate over the five years of the regulatory period).

  The implication of this is that the target productivity improvement of 1% per annum (after growth) specified by the ESC will be achieved.

- **Table 6-7: Final View on Costs Contributing Towards the Explanation of the Variance from Target BAU Opex**

Description	Forecast Expenditure ($ 000 - real Jan 2007)					
	2008/09	2009/10	2010/11	2011/12	2012/13	Total
Increased Cost with Introduction of MWSSA Projects	-	-	494	494	494	1,482
EBA increases greater than inflation / Executive Management	125	188	252	318	384	1,267
Staff Employed in 2007/08[1]	330	334	338	343	347	1,692
Water Treatment Plant Manager	85	86	87	88	89	434
Human Resource Officer Position	included in "Staff Employed in 2007/08"					-
Asset Management Officer Position	included in "Staff Employed in 2007/08"					-
Water Treatment Plant Operators	-	-	59	120	122	301
Electricity Increases Expected (Real)	102	135	148	160	172	717
4 New Water Treatment Plant - Treatment Cost Increases	50	50	50	50	50	250
Increase Licence Analysis Fees (30% Increase September 2007)	50	50	50	50	50	250
New Finance / Billing yearly SLA / Maintenance Fee Increases	40	40	40	40	40	200
Increased demand management expense						-
Printing Costs (Newsletters with All Accounts)						-
Water Supply Demand Strategy						-
Rate Collection Fees						-
Land & Building Revaluation						-
Staff Bench Marking						-
Insurance Increases						-
Fitch Rating Assessment						-
Total	**782**	**883**	**1,518**	**1,662**	**1,747**	**6,593**
Variance from Target BAU Opex	343	407	1,154	1,396	1,314	4,613
Difference	**439**	**476**	**364**	**267**	**434**	**1,980**

Note 1: This includes the Executive Manager in addition to the staff referred to in the above table.

6.3 Recommendations

The review team recommends that:

- **no overall adjustment be made to the operational expenditure as submitted in EGW's Water Plan, as indicated in Table 6.8.**

This is because the adjustments proposed by EGW and assessed by the review team as justifying the Variance from Target BAU Opex (as indicated in Table 6.2) fully explain the quantum of Variance from Target BAU Opex in each of the years. Thus East Gippsland Water will achieve the minimum specified 1% p.a. productivity target (after adjustment for growth) in each of the years of the regulatory period.

Table 6-8: Outline of Recommended Changes to East Gippsland Water's Regulatory Operational Expenditure for Regulatory Purposes

Change Item	Item/Description		$M				
			2008-09	2009-10	2010-11	2011-12	2012-13
1	Nil	Original Water Plan Forecast:					
		Recommended Revised Forecast:					
		Recommended Net Change:					
Total Recommended Net Change:			$ -	$ -	$ -	$ -	$ -
Original Water Plan Total Regulatory Opex:			$ 11.84	$ 11.97	$ 12.78	$ 13.08	$ 13.05
Recommended Revised Total Regulatory Opex:			**$ 11.84**	**$ 11.97**	**$ 12.78**	**$ 13.08**	**$ 13.05**

References

1) Environmental Protection Agency, 2006, *Principles to Establish EPA Environmental Obligations for Water Businesses for the 2008-2013 Pricing determination*, EPA Publication 1069, November 2006.
2) Sinclair Knight Merz, 2004, *Expenditure Forecast Review for the Victorian Regional Urban Water Businesses: Final Report – Recommendations on Expenditure Forecasts*, 13 December 2004
3) Water Services Association of Australia, 2007, *National Performance Report, 2005-06: Major Urban Water Utilities.*
4) EarthTech, 2003, *Mitchell River Water Supply System: Bulk Delivery and Water Quality Improvement*, November 2003.
5) EarthTech, 2007, *Woodglen Water Treatment Plant: Functional Design Report, (Final)* November 2007.
6) East Gippsland Water, 2007a, *Water Supply Demand Strategy, (Final)* May 2007.
7) East Gippsland Water, 2007b, *Water Plan for the regulatory Period July 2008 – June 2013*, October 2007
8) East Gippsland Water, 2007c, *Mitchell Water Quality Improvement Project Business Case, Draft*, December 2007.

Appendix A Futures Price of Electricity

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

Electricity futures lose some spark

Stephen Wisenthal

Financial Review 16 January 2008

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 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.

"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.

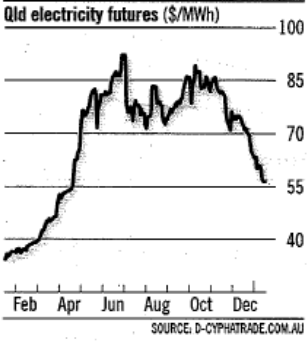
Origin and AGL are both working to increase the proportion of their electricity sales that they generate themselves. Origin is spending $1.3 billion to build a 630 megawatt power station near Dalby, fuelled by gas from its coal-seam methane fields.

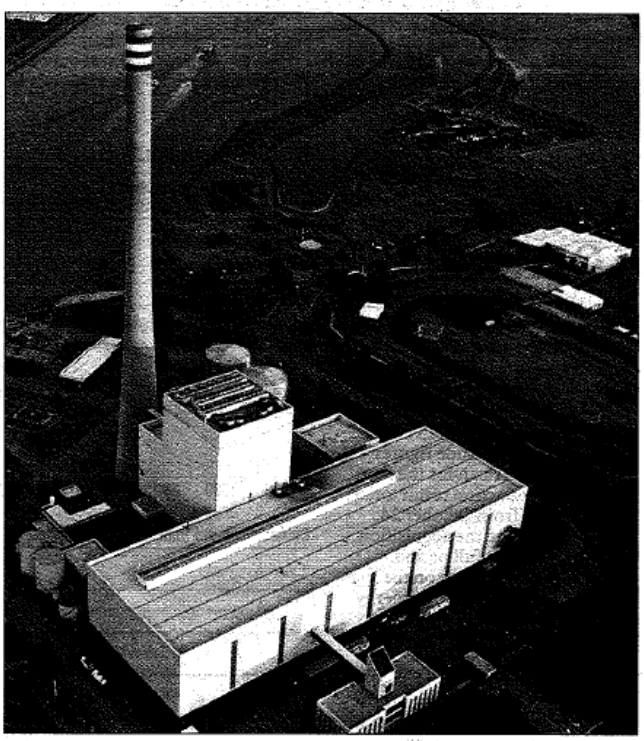
And AGL has locked in electricity supply from a power plant that Queensland Gas is building on its coal-seam methane fields.

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."

Sparking interest





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