Expenditure Forecast Review for the Victorian Regional Urban Water Businesses

- WANNON WATER
  Recommendations on Expenditure Forecasts
  FINAL REPORT
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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. Wannon 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 Wannon 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**

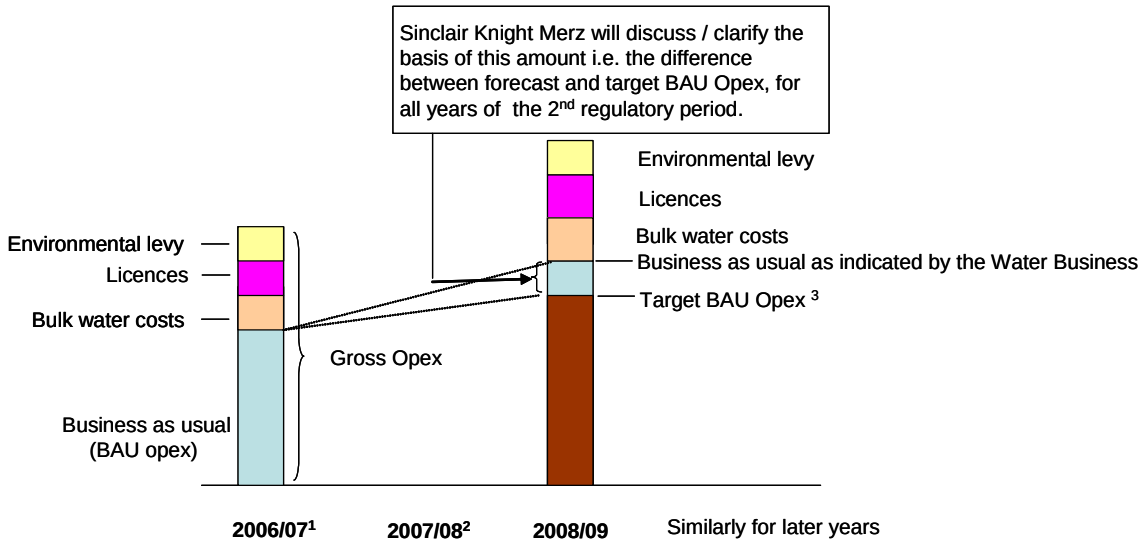
Where **A** is the Growth Adjusted Target BAU OPEX for year n;

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 Wannon 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.

3.1.2 Country Towns Water and Sewerage Program

The Country Towns Water Supply and Sewerage Program is a program managed by the Department of Sustainability and Environment in which the Government of Victoria will invest amounts as follows totalling $42 million (including some overlap between categories).

- $21 million in water and sewerage services for priority towns with the most urgent health and environment issues.
- $12 million on towns in the Gippsland Lakes area;
- $6 million on "showcase" towns that will develop innovative solutions that other towns can learn from;
- $4 million in upgrading water supply in towns with the most urgent problems; and
- $3 million in helping councils to prepare domestic wastewater management plans.

In January 2006 the Victorian Government announced the 35 priority country towns which would receive sewerage systems (23 towns) and /or improved water supplies (14 towns). The media announcement of January 9, 2006 states that the "statewide program aims to stop leaking septic tanks polluting rivers, groundwater and other waterways and damaging the environment".

While the obligation to undertake these works, comprising the media announcement concerning the sewerage schemes in the Gippsland Lakes region and "priority towns" is understood, the review team is not aware of any specifications concerning timing associated with this obligation.

The review team recommends that the ESC should seek stronger guidance from DSE and the government on the priority, business decision framework/rules and funding arrangements in the light of current market conditions (and project costs) for these proposed schemes.

In terms of the business case for these projects the review team is not in a position to form a firm view on the business / financial merits of proceeding with these schemes. We understand however that implementing these schemes requires cross subsidy from existing customers. Our general recommendation therefore is to defer the regulatory expenditure concerned so as to minimise the adverse impact on customers and reduce the impact on water price increases.

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 **Sections 2.1.3** and **6.1**).

3.2.7 Adjustments Principles

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

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

4. Wannon Water: Overview

The initial approach to the review of the Water Plan expenditure forecast for Wannon 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 Wannon Water by the review team on 26 November 2007 (File Note titled "Wannon Water's Water Plan – Operating and Capital Expenditure Review");
- Further more detailed examination and investigation of the key issues through:
  - A meeting and discussion of the expenditure forecasts and key issues with relevant Wannon Water personnel on 12 December 2007;
  - Additional information provided by Wannon Water in response to the issues identified in the File Note and to queries arising out of the meeting on 12 December.
  - A second meeting and discussion of the expenditure forecasts and key issues with relevant Wannon Water personnel on the 27 February 2008.
  - Additional information supplied by Wannon Water in response to the 27 February 2008 meeting and other matters; and
  - Various other follow up discussions with Wannon Water personnel.

4.1 Key Issues

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

- Wannon Water's aggregate expenditure forecasts over the second regulatory period are $110.09M for the Capex program and $169.00M for Opex.
- Wannon Water has a significant Variance from Target BAU of over $7M (or over 20% of Gross Opex) in each year of its Water Plan.
- Wannon Water initially had a different view of its base 06/07 Opex which led it to a different view of its Variance from Target BAU. The ESC has provided guidance to the review team on the audited 2006/07 regulatory operating expenditure to be used for this assessment. The review team understands that this matter is now resolved.
- Wannon Water was formed through the recent merger of Glenelg Water, South West Water and Portland Water and considers that some of the former businesses were under resourced.
- Wannon Water is undertaking major pipeline projects to assure the security of water supply to Hamilton and Casterton and requires the purchase of bulk water entitlements from the Wimmera trading zone.

5. Capital Expenditure (Capex)

5.1 Overview of WNW's Capital Expenditure

Table 5.1 presents Wannon Water's forecast capital expenditure, both by asset category and by cost driver.

5.2 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 $23.35M compared with actual annual average delivery of $19.33M over the first two years of the current Water Plan;
- there is a pronounced peak to the Capex profile in 2009/10 (associated with Hamilton Grampians inter-connector); and,
- except for 2009/10 the proposed size of the capital program appears to be within the scope of that which Wannon Water has previously delivered.

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

- Wannon Water has a long term agreement with an engineering consultant that has secured consulting services until the end of the next regulatory period. The consultant has dedicated substantial resources to Wannon Water to achieve the capital program which is viewed by both parties as the main performance indicator for the success of the agreement. This agreement is currently working effectively.
- There is a large pool of local contractors that are capable of delivering water main/sewer main replacement projects. Water main replacement projects have been bundled into single contracts which are of sufficient size to attract national/interstate contractors as well as the larger sized local contractors.
- Like projects have been bundled together over the proposed 5 year Capex program to gain efficiencies in time and project costs.
- The timing of projects within the proposed Capex program has been work-shopped internally to ensure that the duration of component activities is sufficient to be confident that the projects will be completed and delivered as programmed.
- Other than the Hamilton drying pan project, Wannon Water has attracted a reasonable number of tenderers for treatment plant upgrades/earthworks projects. The majority of tenders that have been accepted are within the accuracy of the engineer's estimate for the project.

Table 5-1: Wannon 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		**17.70**	**16.14**	**36.20**	**25.16**	**43.80**	**12.82**	**16.77**	**11.54**
Gross capex - business as usual		17.70	16.14	36.20	25.16	43.80	12.82	16.77	11.54
Gross capex - new obligations					-	-	-	-	-
Approved 1st period gross capital expenditure		20.66	18.00	17.13					
Average annual 1st period capex	23.35								
Average annual 2nd period capex	22.02	Annual 2nd period capex is on average 6% lower than the 1st period							
Breakdown of business as usual gross capex									
Water headworks		9.97	0.95	10.14	0.51	0.21	0.75	0.30	0.19
Water pipelines / network		-	1.84	8.21	6.84	30.59	4.09	4.86	2.25
Water treatment		-	2.82	1.12	2.39	0.94	0.34	0.83	0.60
Water Corporate		1.34	4.20	1.63	4.25	5.46	1.26	2.30	1.65
Water sub-total		***11.31***	***9.81***	***21.10***	***13.99***	***37.20***	***6.43***	***8.29***	***4.69***
Sewerage pipelines / network		-	3.05	6.09	3.03	1.91	3.22	3.61	0.84
Sewage treatment		-	0.75	7.53	5.02	0.62	1.51	2.47	4.89
Sewerage Corporate		0.99	2.53	1.48	3.12	4.08	1.66	2.40	1.12
Sewerage sub-total		***6.40***	***6.33***	***15.10***	***11.16***	***6.61***	***6.39***	***8.48***	***6.85***
Bulk Water sub-total		-	-	-	-	-	-	-	-
Recycled water		-	-	-	-	-	-	-	-
Rural Water		-	-	-	-	-	-	-	-
Breakdown of BAU gross capex by cost driver									
Renewals					5.51	23.59	5.47	6.14	8.71
Growth					2.49	0.61	3.08	5.24	1.31
Improved service					4.36	6.69	1.01	1.81	0.01
Compliance					8.62	3.47	2.84	2.19	0.95
Government contributions					3.23	9.00	-	-	-
Customer contributions					0.94	0.44	0.43	1.39	0.55

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- For larger projects, pipe supplies have been separately tendered to account for longer lead times on the supply of pipe and other materials.
- Recent discussion with Tyco regarding pipe supply for the Hamilton Pipeline indicates that the 375mm dia. size will be able to be supplied within the construction requirement (12 week supply). Coleraine pipeline is readily available given it is only 200 mm diameter.
- Materials for major civil projects involving concrete structures such as the Warrnambool Water Reclamation Plant are readily available.
- Wannon Water has introduced an electronic tendering system which has enabled it to reach a larger audience and has also made it simpler and quicker for tenderers to receive tender documents and to submit tenders.
- Regarding the Warrnambool office construction project, other building projects of this magnitude in the Warrnambool area have attracted reasonable competition.
- Wannon Water's Assets Department has the resources to complete a $31M program of Capex in 2007-08.
- Wannon Water is actively recruiting internationally for engineers to further boost its resources.

The review team remains concerned that Wannon Water is competing with other larger water authorities for bigger contractors to deliver its major projects. These contractors currently have a focus on winning larger, more attractive bundles of work and/or big projects with the larger water businesses. Wannon Water has not been able to establish a track record in delivery of capital projects given that it was recently formed out of a merger of three separate businesses. It undertook a review of its capital program and this led to delays in many projects in the current Water Plan period.

The review team considers that the measures undertaken by Wannon Water are prudent and Wannon Water is responding appropriately, but the review team has considered the programs of a number of specific projects and as an alternative is recommending that timing changes be considered. If implemented these would have the affect of smoothing Wannon Water's Capex profile.

In discussions between Wannon Water and the review team following release of the Draft Report, Wannon Water proposed an alternative for smoothing its capital expenditure profile and provided specific information about which projects it could deliver on time and which projects were important and would receive priority focus. It also restructured its capital program compared with that submitted in its Water Plan and provided a revised capital program. This is discussed in more detail in **Section 5.3.11.**

A key overall effect was to smooth the capital expenditure in the first two years of the period. The peak is reduced from $43.8M to approximately $35/36M and accelerate the more important projects that Wannon Water is better positioned to deliver.

The review team considers that the revised program put forward by Wannon Water is still not without significant risks, but that it addresses some of the primary concerns raised by the review team in a practical and prudent way. The review team's recommendations lead to adoption of the Wannon Water's revised program with minimal alteration in terms of the quantum and timing of the proposed capital expenditure.

5.3 Key Projects

Wannon Water's Water Plan forecasts $110.09M of capital expenditure over the regulatory period. The top ten projects make up nearly $71.8M (over 65%) of this, and are listed in **Table 5-2**. [NB: This table is based on what was submitted in Wannon Water's Water Plan and not what is now being proposed by Wannon Water.] The review team's recommendations combined with the profiles originally submitted lead to a revised capital program that is consistent with what Wannon Water is now proposing.

5.3.1 Hamilton Grampians Inter-Connector Pipeline

This project involves the construction of 47 km of 375 mm pipe between Hamilton and Grampians (to access the headworks at Rocklands Reservoir), a pump station and pipework at the Rocklands Reservoir and purchase of a bulk water entitlement. The purpose of the project is to provide water to the Hamilton water supply system.

Wannon Water's Water Supply Demand Strategy (WSDS, page 51) indicates that current system demand is 2000 ML/year (5.5 MLD) and this is forecast to reduce to 1700 ML/year (4.7 ML/D) and system supply in dry years is up to half of system demand. The review team considers that works to augment the supply of water to the Hamilton System are justified on the basis of the WSDS and other information received from Wannon Water.

Page 73 of the WSDS indicates that the transfer capacity of the pipeline that conveys the water from its source (at the Grampians) to the Hamilton System is 12.8 ML/d. The WSDS considered numerous options including evaporation reduction measures, constructing bore fields, pipeline connections to existing water supplies and water conservation. Not all options were consistent as each is capable of delivering different amounts of water. The preferred options were "Reducing Evaporation from Water Basins" and "Moora Moora". The review team noted that the preferred option appeared to have changed sometime between publication of the WSDS (June 2007) and Wannon Water's Water Plan (October 2007) as the Moora Moora option was no longer preferred.

- **Table 5-2: Wannon Water: Key Projects as submitted in Water Plan**

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								
Hamilton Grampians Inter-Connector Pipeline	520	3,780	29,900	-	-	-	**33,680**	***31%***
Office Building	1,428	3,700	3,628	-	-	-	**7,328**	***7%***
Upgrade Portland WRP	40	-	-	460	2,275	3,988	**6,723**	***6%***
SCADA Provision	-	340	2,489	150	1,751	-	**4,730**	***4%***
Casterton to Coleraine Pipeline	1,500	3,370	-	-	-	-	**3,370**	***3%***
Dutton Way Sewerage & Water Services	10	-	-	250	3,050	-	**3,300**	***3%***
Warnambool WRP Upgrade	150	5,063	1,688	98	910	-	**7,758**	***7%***
Camperdown Water Mains Replacement	-	-	-	476	306	890	**1,672**	
West Portland Sewerage Services	150	1,727	-	-	-	-	**1,727**	***2%***
Water Recycling	30	50	75	700	700	-	**1,525**	***1%***
Total	***3,828***	***18,030***	***37,780***	***2,134***	***8,992***	***4,878***	71,813	***65%***
% of total Capex in the financial year indicated		72%	86%	17%	54%	42%		

A spreadsheet printout provided by Wannon Water indicates that the preferred option is "Rocklands Reservoir". The capital cost of the "Rocklands Reservoir" option is lower than the capital cost of the Moora Moora option. However, a third option called the "Dilwyn Aquifer near Myamyn" option had a lower capital cost than both of these options. The review team sought clarification of the preferred option and Wannon Water directed the review team to two GHD reports (GHD 2007e and GHD 2007f). The first GHD report (GHD 2007e) indicates that the cost of the Dilywn Aquifer option has the same NPV as the preferred option, but is not preferred based on other factors including the reliability of the water supply in terms of yield and quality (compared with the "Rocklands Reservoir" option). The second GHD report (GHD 2007f) further assessed the two short listed options and the findings of that report did not change the preferred option. The review team considers that the option selected is appropriate.

The cost of the preferred option is $34.2M in total with $33.7M planned to be spent during the second regulatory period and the remainder at the end of the first regulatory period. The cost of the project consists of two major elements including pipeline construction costs ($26.7M including contingency and engineering design), purchase of a bulk entitlement ($5.0M) and other ancillary works associated with the project (pump station, surge tank and easement costs) ($2.5M).

The unit cost of the pipeline is approximately $1.52 per metre length per mm diameter. The cost of the pipeline is at the high end of the range for pipes of this size of between $1.00 per metre length per mm diameter and $1.50 per metre length per mm diameter. The review team considers the pipeline cost is reasonable given that significant amounts of rock are anticipated.

Wannon Water has priced the purchase of a bulk entitlement at $2500 per ML for 2000 ML (i.e. $5M). The review team notes the thinness of trades in the Wimmera Irrigation area and that negotiations are occurring currently between Wannon Water and Grampians Wimmera Mallee Water to resolve this issue. These negotiations are ongoing and are likely to take some time to conclude.

At the second meeting between Wannon Water and the review team, Wannon Water emphasised the importance of delivering the project on time and that it could not support the spreading of the costs of the project over 3 years given its priority. Wannon Water advised that a Deed signed by Wannon Water and the State Government requires the works to be completed by 25 June 2010. The review team acknowledges the importance of the project but its primary concern remains the ability of Wannon Water to deliver the project in the desired timeframe (given the significant ramp up of expenditure required in 2008/09 and the significant monthly spend proposed in 2009/10). Any proposed change in the profiling of capital expenditure reflects the balance of these views.

Furthermore, the review team considers that Wannon Water appears well positioned to commence construction in 2008/09 and the review team's concerns relate to the length of the construction

program rather than the starting date. Wannon Water provided further information about its ability to start the project including that Tyco can deliver the pipe materials within 6 to 8 weeks, all land owners have granted consent for access and that for a recent similar size pipeline project Wannon Water received six competitive tenders. This reconfirmed the review team's initial review that Wannon Water seemed well positioned to commence construction by 2008/09, but did not address its concerns regarding the duration of construction program.

The Water Plan expenditure profile was such that the bulk of the project expenditure (namely $29.9M or approximately 95% of the total) was proposed is to be spent in the second year of the regulatory period. This equates to a construction rate of approximately 4 km of pipe per month and expenditure of approximately $2.5M per month which the review team considered to be quite high. Given the unit cost rate, diameter of pipe and hard ground conditions the view team understands that the pipe will have to be constructed using conventional trenching methods. Wannon Water sought further information from GHD on this issue who provided comparisons of actual and tendered construction rates for two comparable projects.

The average construction rate for the 30 km 200 mm diameter DICL Coleraine-Casterton Pipeline equates to approximately 500 metres per day. The 10 km 200 mm diameter PVC White Swan Reservoir Pipeline was constructed at a rate of 200 metres per day. The current program for the Hamilton Grampians pipeline summarised by GHD allows for a construction rate of approximately 170 metres per day. GHD concludes that "Although the Hamilton Grampians Pipeline is a larger diameter, and more rock is expected than at Coleraine, based on tendered construction rates and the fact that it is proposed to order materials separately it is reasonable to assume that the successful contractor can deliver the project by 25 June 2010." These facts and the related commentary address the review team's specific concerns regarding the length of the construction program.

Given the priority of this project and to smooth the related expenditure, Wannon Water has advised in recent discussions that it wishes to bring forward some expenditure ($8.94M) from 2009/10 to 2008/09 to accelerate the project and to take advantage of the fact that it is well positioned to commence early in 2008/09.

In summary, the review team considers that the information provided reasonably supports the program proposed by Wannon Water and therefore that the expenditure profile proposed by Wannon Water is reasonable.

The review team concludes and recommends that:

- no changes be made to the overall cost estimate for this project and that the revised expenditure profile recently proposed by Wannon Water to spread capital expenditure more evenly across 2008/09 and 2009/10, as indicated in **Table 5.5,** be adopted. This is consistent with Wannon Water's advice based on the recent GHD analysis and recommendations;

- the ESC review the expenditure provision for the purchase of the bulk entitlement proposed before it makes its final determination and/or once the negotiations between Wannon Water and Grampians Wimmera Mallee Water are completed or substantive progress has occurred.

  The review team is not in a position to resolve this issue but considers that the net amount provided is reasonable based on current information and notes that the purchase price appears high (although it is lower than initially advised) and the volumes are still somewhat uncertain.

The review team also notes Wannon Water's confirmation that the design life of this asset for accounting purposes is 100 years. The review team considers this to be reasonable and consistent with that adopted by other water authorities for water pipelines.

5.3.2 Office Building

Wannon Water is currently spread across four offices in the city of Warrnambool and proposes to consolidate its staff and business operations into a single office location. In May 2003 the then South West Water Authority considered the extension of its Warrnambool Office (South West Water Authority, 2003) due to the size of its workforce in comparison to available office space. The merger of South West Water, Portland Water and Glenelg Water has further exacerbated this issue.

In April 2006 Wannon Water commissioned Architektonic to undertake an assessment of options to consolidate its head office. Architektonic considered various options including extending the existing office, building a new single story office on a green fields site, building a new double story office on a green fields site and leasing existing office space. Cost estimates for the "extend" and "build" options were determined by Architektonic (using sub-consultants SKM) on a metre square basis. A cost estimate for the "lease" option was obtained through obtaining expressions of interest via a public advertisement in the local paper.

The preferred option is to build a new office. This was not the lowest capital cost option. The lowest cost option is to extend the existing office, but the assessment undertaken by Architektonic considered that the construction of the extension was more risky than the construction of a new building and would potentially lead to an increase in costs. Construction of a new office has the lowest net present cost (least negative NPV) on the basis that the Fairy Street site can be sold for $2.1M. The review team considers that the highest net present value option has been selected. [Note: Wannon Water considers that this is the only workable or viable option and that the status quo (or base case) should not be used to determine what is economic.]

The cost estimates developed for the options assessment have been carried forward to establish a planned expenditure for the regulatory period (adjusted for inflation). The review team finds that the cost estimate for the new building is reasonable based on the approach adopted by Architektonic.

The estimated total cost of the project is $8.76M includes an amount budgeted in 2007/08 (of $1.43M) that is understood to be associated with land acquisition and design costs. The review team has not considered whether this cost is reasonable as it understands this expenditure is to occur in the final year of the current regulatory period.

The review team considered whether there was any objective measure to assess whether the expenditure was prudent or justified. The review team doubts that it is economic to consolidate Wannon Water's head office, i.e. the review team considers it problematic whether the consolidation will lead to present value productivity improvements of $3.8M (the approximate present cost of the new building).

Wannon Water advised the review team that at a high level the benefits of a new building are, consolidation of Warrnambool based employees resulting in a more productive organisation, removal of the current cramped and unsatisfactory working conditions, reduction in maintenance costs associated with the aging Fairy Street Office, avoidance of current rental costs associated with Vic Roads, TOC-H and Meeting Room and sale of the Fairy Street Office.

With respect to rental saving associated with the new building, Wannon Water indicated that current rentals per month are as follows:

- Toch H Building: $5,960.80 p.m. or $71,529.60 p.a.
- Vic Roads Office: $4,306.97 p.m. or $51,683.64 p.a.
- Boardroom: $2,291.66 p.m. or $27,499.92 p.a.
- **Total**: $12,559.43 p.m. or $150,713.16 p.a.

Wannon Water further advised that the new building is planned for completion in February 2010. Consequently, rental savings of $151K p.a. should commence from March 2010 and have been factored in from March 2010 in the templates provided to ESC. However Wannon Water suggested that it might be safer to assume rental savings will occur from 1 July 2010.

In summary, at this stage the review team:

- has adopted a pragmatic view of this matter on the basis that it is reasonable for a new entity to consolidate its head office, the current head office is cramped and the other offices do not providing satisfactory working conditions.
- remains doubtful that the consolidation is economic but considers the expenditure estimate for the project to be reasonable.
- Proposes no change to the quantum of expenditure for the project but acknowledges that there will be some carryover of expenditure from 2007/08 to 2008/09 with an increase of approximately $0.38M in that year and a slight decrease in 2009/10.

5.3.3 Upgrade Portland WRP

The Portland WRP receives raw sewage from the township of Portland which includes a population of 9,600 people and large trade waste customers (Portland Aluminium, Portland Port Authority and Keppel Prince). The existing plant consists of two mechanically aerated aerobic lagoons and 12 reed beds.

The existing Portland WRP is failing to meet EPA Licence Conditions, and upgrades are needed to ensure the plant is compliant with current and future licence conditions. An Options Investigation Report prepared by SKM in January 2007 compared six possible long term upgrade options and a subsequent report (provided by Wannon Water) developed the three preferred options arising out of the first report. The three practicable options that were considered included:

- Option 1 - Activated Sludge Plant
- Option 4 - Intermittent Decant Extended Aeration Lagoon (IDAL) Plant
- Option 5 - Aerated Lagoon plus Nitrifying Tricking Filter

Option 4 had the lowest capital cost and present cost and forms the basis for Wannon Water's current estimate. The review team considers that there is a strong need for the project and that the lowest net present cost option has been selected.

The WRP will be capable of treating an average flow of 4.5 ML/D and a peak flow of 12 ML/D. The estimate in Wannon Water's Water Plan of $6.72M matches the estimate provided by SKM in a revised estimate it supplied via email on 17 August 2007. The estimate is based on a detailed schedule of rates. The estimate is considered reasonable for a plant of this size in the current market environment.

Wannon Water is currently undertaking community consultation. Wannon Water originally provided a program indicating that project delivery would be structured across the second regulatory period as follows:

- first year - works approval obtained,
- second year - allowance for project float,
- third year - detailed design for the plant upgrade to be undertaken; and
- last two years – construction of the plant upgrade works.

The review team considered that the proposed project timeline allowed adequate time to undertake consultation, obtain approvals, complete a detailed design and construct the plant. In subsequent discussions Wannon Water indicated a wish to bring this project forward by approximately 18 months to two years and defer construction of the Warnnambool upgrade in response to an EPA letter addressing Wannon Water's Water Plan which stated - "EPA supports these [WRP] upgrades

and suggests the Portland WRP be brought forward in the scheduling as its current poor licence compliance and condition make it the highest priority".

In summary, the review team recommends:

- no change to quantum of capital expenditure for this project,
- the revised timing put forward by Wannon Water be adopted consistent with the EPA's suggestion. This results in the project being brought forward by approximately 18 to 24 months and re-profiling of the expenditure as indicated in **Table 5.5**.

5.3.4 SCADA Provision

The purpose of this project is to upgrade Wannon Water's existing SCADA network to provide security and efficiency of operation. The project involves installing new SCADA equipment (including control cubicles, RTUs, analogue signals, instrumentation) at each of Wannon Water's approximately 160 sites (treatment plants, flow meters, sewage pump stations, etc) as well as upgrading the existing communications network (base station and repeater sites).

At its second meeting with the review team, Wannon Water stressed that the project primarily involves installing SCADA at sites which do not currently have SCADA facilities.

This strategy for SCADA appears to be based on work undertaken by Westin Engineering for South West Water in May 2002. Westin Engineering proposed a phased implementation of the scheme to ensure the availability of resources, minimisation of disruption to ongoing business and to allow assessment of each phase before progressing to the next phase. Three phases were proposed and the total cost of implementing all three phases was estimated to be $5.74M in 2002. The current cost estimate to install all three phases is $6.21M with the difference associated with inflation.

The Water Plan cost estimate is based on installing the remainder of the Phase 2 project works with commencement in the first year of the regulatory period (design) and completion in the second year of the regulatory period (installation). This would be followed by installing Phase 3 project works in years three and four of the regulatory period. It is understood that the works of Phase 1 have already been installed. [NB: The review team notes that the phases described in the original report and the terminology now used by Wannon Water appears to have changed. This may be an issue that Wannon Water should consider with respect to ensuring that the scope of the project is well managed.]

The project is expected to lead to minor operational savings which will be first realised in the 2010/11 financial year ($1.6K) and be fully realised by 2017/18 ($3.9K). Greater operational savings might normally have been expected from such a significant investment. Notwithstanding

this concern, the review team understands that none of the existing sites have any form of SCADA and therefore the review team considers the expenditure is reasonable and prudent.

At the Draft Report stage, the review team had not received any information from Wannon Water that provided a clear justification or need for the project or demonstrated the benefits of phase 1 of the project. At its second meeting, the review team sought from Wannon Water information on the benefits of Phase 1 of the project or a copy of any review of Phase 1 that provided examples of alarms that had been raised by elements of the new SCADA system which demonstrated benefits (e.g. avoidance of potential environmental issues). The review team was not able to sight such information and would consider it good practice for Wannon Water to establish a process to confirm that the intended benefits from its SCADA system are in fact delivered.

The cost estimate for the SCADA project is based on a detailed site by site equipment list (including installation, programming, project management and administration). The construction of the cost estimate is such that contract project management costs are a percentage of total project costs including contingency and engineering. Whilst the view team considers this approach of an apparent contingency on project management as problematic, it notes that the average installation cost is approximately $30K per site which appears reasonable given that all sites currently have no SCADA. The expected SCADA installation cost for a new site of the size that Wannon Water is managing could typically be up to $60K (or even greater in certain circumstances). Wannon Water advised that the cost of the Phase 1 project came in very close to budget.

Wannon Water has recently advised that it intends to increase its expenditure in 2008/09 by approximately $1.2M.

In summary, the review team:

- considers that the SCADA facilities project is justified and prudent and the costs proposed for Phase 2 and Phase 3 of the project are reasonable;
- recommends that no changes be made to this project in terms of total quantum of expenditure but that the 2008/09 expenditure be increased by $1.2M (including an estimated carryover of $0.9M from 2007/08) as proposed by Wannon Water.

5.3.5 Casterton to Coleraine Pipeline [$3.37M]

The purpose of this project is to improve the security of supply of water to Casterton and Coleraine and supply Coleraine with a drinking water supply that meets ADWG.

Casterton receives water supplied from the Tulloch Bores 14 km to the west and Konongwootong Reservoir 29 km to the east. An offtake 8 km downstream of Konongwootong Reservoir diverts water to Coleraine which is a further 11 km downstream from the diversion point. The Tulloch Bores are used to supply other water systems in the region and a report prepared for the former

Glenelg Region Water Authority by GHD in November 2001 indicated that yields available from the Tulloch Bores (389 ML/yr) is only half the expected 2020/21 system demand (of 715 ML/yr). Similarly peak day demand (6.6 ML/d) is in excess of peak day supply (6.4 ML/d). The water from Konongwootong is untreated and has salt levels in excess of ADWG.

In April 2007 GHD compared the option of expanding the Tulloch bore field and piping water from Casterton to Coleraine versus treating water from Konongwootong Reservoir with a reverse osmosis plant or evaporation lagoons. The report considered the condition of the Konongwootong Reservoir and the pipe connecting the reservoir to the supply centres. The report concluded that the present cost of the "Tulloch Borefield" option was $8.8M and the present cost of the "Konongwootong Reservoir" option was $22.3M.

The Casterton to Coleraine Pipeline is a component of the works identified by GHD in its assessment of options. The pipeline will transfer treated water from the Tulloch Borefield to Coleraine via Casterton. The review team considers that the project is needed to improve the security of supply and quality of water to the Casterton and Coleraine region and is therefore justified. The review team also considers that the option selected is appropriate and has the lowest capital and economic cost.

The cost of the project was estimated by GHD to be $5.07M. Wannon Water has provided for $3.37M in the first year of the second regulatory period to complete construction of the project. The difference in amounts is because Wannon Water has already spent $0.2M in the 2006/07 financial year and $1.5M in the 2007/08 financial year on the project. The review team was not entirely clear why significant amounts of expenditure had occurred prior to the option assessment process being completed (amounts that are in excess of what has been allowed for in the design). However, Wannon Water advised that the report provided to the review team was a review of a previous options report completed a number of years earlier to confirm that the best option was being selected for construction. The review of the options was commissioned given that the original options study had become dated.

The major components to the project are the pipeline ($4.2M) and Pump station ($0.7M). The review team finds that the unit cost of the pipeline at $0.71 per metre length per mm diameter is lower than a typical range of $1.0 per metre length per mm to $1.5 per metre length per mm but is probably reasonable for PVC pipe. The recommended pipe diameter and material is DN200 PVC and this would probably rule out the use of ripping techniques that might have otherwise explained the unit cost. It is however noted that extensive geotechnical testing has been undertaken and the sample of bore logs reviewed indicated favourable ground conditions.

Wannon Water advises that tenders have been received which are consistent with the Water Plan estimate. The review team considers that the cost of the pump station is marginally higher than

anticipated for a pump station of this size and this is partly explained by costs to be passed on by Powercor for power supply ($30K), the cost of a shed to house the station ($150K) and electrical switchboard ($80K).

On balance the review team considers that the capital expenditure for the project is appropriate and reasonable overall and that the proposed delivery timetable is achievable.

Wannon Water has recently advised the review team that it will spend an extra $1.0M in the current year (2007/08) with an equivalent consequential reduction in expenditure in 2008/09.

The review team recommends no change to the overall quantum or expenditure for the project but proposes that the provision in 2008/09 be reduced by $1.0M (resulting from an increased expenditure of this estimated amount in 2007/08).

5.3.6 Dutton Way Sewerage and Water Services

Dutton Way is a priority town for wastewater services under the State Government's Country Town Water Supply and Sewerage Program. Wannon Water is required so sewer Dutton Way under its Statement of Obligations.

Dutton Way includes 290 allotments with 165 dwellings including 69 holiday homes. The allotments dispose of sewage waste using septic tank systems and are generally less than 800 m^2. The septic tank systems present an environmental issue as the allotments are small, consist of sandy soils and are near the coast. The septic tank systems also present public health issues as some residents obtain drinking water from shallow bores. Accordingly the review team finds that there is justification for the project. (Furthermore, the cost of the project equates to approximately $16K per allotment and the review team considers that this provides sufficient justification to service this particular area in comparison with other areas given that it is within a typical range for sewerage backlog per allotment costs of $10K and $20K per allotment.)

GHD investigated six options for the sewerage scheme in June 2007 (GHD 2007b), including advanced on-site treatment, "fine-tuning" of a treatment and reuse facility, conventional reticulated sewerage to a new centralised treatment facility, conventional system connected to an existing sewerage system (Portland), STEP system connected to a new centralised treatment system and a STEP system connected to an existing sewerage system (Portland). The advanced on-site treatment system had the lowest capital cost, but the highest net present cost. The STEP system connected to Portland had the lowest net present costs and the second lowest capital cost. This system was further refined by excluding larger lots from the STEP scheme and proposing advanced on-site treatment. This reduced the capital cost and the net present cost of the option. However, the option selected by Wannon Water as the basis for its Water Plan did not include the proposed refinements.

[NB: At the Draft Report stage, the review team had not sighted any reasons or justification for this decision.]

The review team notes that in its report GHD distinguished between total costs and household costs. The Capex for the lowest net present cost option (excluding household costs) is $2.71M. The review team used this option as the basis for its recommendation as it found that it is the most economic option. At its second meeting with the review team, Wannon Water provided further analysis (GHD 2007g) that demonstrated the original lowest cost option was more expensive than the preferred option if it was considered on a consistent basis. Wannon Water also agreed that household costs should be excluded from the Water Plan estimate. The review team is satisfied that the lowest cost option has now been selected without the inclusion of land owner costs.

The cost estimate for the option being considered by the review team is based on a schedule of quantities including on-property plumbing, on-property tank and pump costs, reticulation system costs and the costs of a sewage pumping station and rising main to connect the reticulation area to Portland. Reticulation costs are based on rate of between $0.77 per metre length per mm diameter (50 mm pipe) and $1.17 per metre length per mm diameter (110 mm pipe). The review team considers these costs to be reasonable in comparison to similar projects particularly given the costs are based on consideration of geotechnical field testing results.

The cost of the sewage pumping station is $100,000 and whilst small packaged pumping stations can be procured and installed for this price the review team considers this low given Wannon Water's SCADA program and the average cost of SCADA installation. The cost of the sewerage rising main is $1.65 per metre length per mm diameter which the review team considers to be slightly above a typical reasonable range of $1.00 to $1.50 per metre length per mm diameter. This might be explained by alignment specific issues. However overall, given the lower than expected cost of the sewage pumping station, the review team finds the total cost of this option reasonable.

Wannon Water has recently advised that it intends to defer this project by approximately one year with all the expenditure now occurring in 2012/13.

In summary, the review team recommends:

- no change to quantum of capital expenditure for this project,
- the revised timing put forward by Wannon Water (with the scheme to be delivered in 2012/13) be adopted, with re-profiling of the expenditure as indicated in **Table 5.5**.

5.3.7 Warrnambool WRP Upgrade [$3.30M]

Page 84 of Wannon Water's Water Plan indicates that the total cost of the Warrnambool Water Reclamation Plant Capacity Upgrade is $4.48M of which $1.54M will be spent in 2007-08 and $3.30M will be spent during the second regulatory period. Further information provided by

Wannon Water indicates that the cost of the Warrnambool upgrade is now estimated to be $7.94M of which $7.76M is to be spent during the second regulatory period.

Following the second meeting with Wannon Water the review team was provided with a 2003 report prepared by Earthtech (Reference 11) establishing the basis for this plant in the context of the long term strategy for wastewater management for Warrnambool. This report outlines an options assessment which includes consideration of treatment plant types, treatment plant locations, industrial waste water management and residential waste water management. Later work by SKM on the concept design established that the lowest economic cost outcome to achieve the required objectives was installation of an aerobic digester and augmentation of biosolids handling capacity (with construction of a fifth cell in circa 2015). The review team considers that it is prudent to upgrade the existing treatment plant and that an economically appropriate option has been identified.

Wannon Water advised that SKM is currently preparing a further report on the upgrade and the current estimate is based on a draft of that report. The review team considers that the cost of the project is reasonable based on the estimate produced by SKM.

As noted in **Section 5.3.3**, to accommodate bringing forward the Portland WRP, it is proposed to defer the Warrnambool WRP upgrade works project by approximately three (3) years with completion in 2012/13 consistent with EPA comments on Wannon Water's Water Plan. Wannon Water advises that this project can be delayed because flows to the plant have fallen as a result of demand management initiatives within the Warrnambool township.

In summary, the review team recommends:

- no change to quantum of capital expenditure for this project; and
- the revised timing put forward by Wannon Water be adopted consistent with the EPA's suggestion. This results in the project being deferred by approximately 3 years and re-profiling of the expenditure as indicated in **Table 5.5**.

5.3.8 Camperdown Water Mains Replacement

Wannon Water manages $203M of sewer pipes and $311M of water pipes (Reference 15, p3) and has developed a water and sewerage network renewal plan to identify which pipes and sewers need to be renewed and when. The renewal program is based on a combination of inputs including location, physical attributes, asset age and operator views.

Wannon Water has provided further justification for the development of a renewal program by reference to the number of operations and maintenance activities undertaken to address faults in its pipe networks which have increased from 800 in 2005 to 1,600 in 2007. However, Wannon Water acknowledges that this increase may be due to better reporting of activities. Regardless the review

team finds that the renewal program is prudent given the general age profile and maintenance activities being undertaken by Wannon Water.

Wannon Water proposes to spend $1.67M over the last 3 years of the regulatory period and a total of $3.38M through to the financial year ending 2017 to renew pipe assets in the town of Camperdown. Wannon Water's Renewal Plan includes an appended list of assets that are on this program. All assets on the program will be considered in detail before they are replaced. The review team considers that this approach to setting a budget for a renewals program is justified and prudent. The cost rates detailed in the Renewal Plan are slightly less than $1 per metre length per mm diameter and the review team considers this cost estimate basis is reasonable given that a range of renewal methods will be used including replacement and relining.

The review team recommends that no changes be made to the quantum or timing of capital expenditure for this program.

5.3.9 West Portland Sewerage Services

Page 85 of Wannon Water's Water Plan indicates that the West Portland Sewerage Scheme is required to provide sewerage services to properties located in the West Portland Growth area and that the Glenelg Shire and the EPA have concerns with the discharge of raw septic tank effluent in the area.

The review team compared the justification provided for this project with that for the Dutton Way Sewerage Scheme and considered that the justification of the West Portland Sewerage scheme is less substantial than the justification for the Dutton Way Sewerage scheme. At its second meeting with the review team, Wannon Water advised that the section of West Portland to be sewered was a backlog area and not part of the Country Towns Water and Sewerage Schemes and that to service the backlog area required a simple extension of a gravity sewer. For this reason an extensive options assessment was not required.

The review team sighted two reports (prepared by Utility Services and Brian Consulting) which had been undertaken to assess the needs of the backlog area and the works required. Furthermore, Wannon Water advised that it had recently consulted with over 100 residents regarding the scheme and that the work was being tendered for detailed design.

The review team does not recommend any change to the quantum or timing of this project.

5.3.10 Water Recycling

Wannon Water has made a notional allowance for piping recycled water from its Cobden treatment plant reuse site that currently uses a mix of recycled and potable water. Wannon Water advises that the operating cost and income of the recycling scheme are expected to closely match and will make

the scheme economic to proceed. Very preliminary work has been undertaken by Psi-Delta for Wannon Water and further work is to be undertaken by GHD. The review team considered a one page project summary sheet and an associated half page note but did not sight any work completed by Psi-Delta or GHD.

The review team considers that for the scheme to be considered economic to proceed there also needs to be a return on capital. Wannon Water has clarified that the project did not include a return on capital. At its second meeting with the review team, Wannon Water indicated that the project should be removed from its planned expenditures.

The review team considers that it is reasonable to pursue development of this potential opportunity but recommends that provision for expenditure on the Water Recycling project be substantially removed from the second regulatory period as justification of the scheme is not likely to be established for some time. Wannon Water is understood to support deferral of this expenditure. Only some initial expenditure ($0.15M in 2008/09) for investigatory work and development of a functional design and business case has been provided.

5.3.11 Overall Capex Changes Proposed by Wannon Water

In addition, during the review period Wannon Water has advised both the ESC and the review team of shifts in expenditure it wishes to make resulting from likely shifts in expenditure between 2007/08 and 2008/09 (both carried forward and deferred expenditure).

Some of these shifts have been accounted for in the assessment and discussion in **Sections 5.3.1** to **5.3.10**. The major effects are (compared with the Water Plan submitted by Wannon Water):

- A substantial increase in expenditure in 2008/09 and a substantial reduction in reduction in expenditure in 2009/10 with lesser adjustment in other years;
- An overall increase in expenditure over the regulatory period of approximately $6.42M) primarily resulting from a net carryover/increase of expenditure in 2008/09 of an amount similar to this;
- A more smoothed capital expenditure profile overall.

The changes to capital expenditure proposed by Wannon Water are summarised in **Table 5.3**.

The review team has not assessed the details of all these minor shifts but has assessed the changes proposed by Wannon Water as outlined in **Table 5.3** (in the context of the assessments in the preceding sections) and has formed its own views. The review team's assessment and its view on appropriate and reasonable changes to the capital expenditure proposed in Wannon Water's submitted Water Plan (October 2007) and the revised recommended regulatory capex is indicated in **Table 5.4**.

The review team notes that in one or two instances Wannon Water may not have made the appropriate comparisons with the expenditure numbers in the original Water Plan (and therefore will have a different view of the proposed changes).

- **Table 5-3: Wannon Water's Current View on Capex Changes compared with Water Plan Submission**

Line Item	Project	2008/09	2009/10	2010/11	2011/12	2012/13	Total
1	**All other projects**	-	-	-	-	-	-
2	Coleraine Pipeline	(1.00)					(1.00)
3	Macarthur Iron Sorption Plan	0.50					0.50
4	SCADA/Telemetry	1.20			(0.02)		1.18
5	Septage Receival at Hamilton & Warrnambool	0.43					0.43
6	Water Mains Replacement at Warrnambool	0.15					0.15
7	West Portland Sewer Scheme	0.10					0.10
8	Upgrade to Portland WRP		0.46	3.50		(3.97)	(0.01)
9	Warrnambool Office Construction	0.38					0.38
10	Camperdown Water Treatment Plant Water Stabilisation	0.15					0.15
11	Hamilton WRP sludge management	(0.17)					(0.17)
12	Hamilton Tertiary WRP Pre-treatment System	1.00					1.00
13	Dutton Way Sewerage Services			(0.25)	(2.80)	3.05	0.00
14	Hamilton-Grampians Inter-connector Pipeline	9.25	(9.30)				(0.05)
15	Portland Aluminium RO Plant	1.32					1.32
16	Bald Hill No. 1 Bore replacement	0.20					0.20
17	Bald Hill No. 2 Bore replacement	0.57					0.57
18	Warrnambool WRP Digester	(2.09)			2.68	3.86	4.46
19	Port Campbell WRP land purchase and irrigation	1.35					1.35
20	Port Fairy water tower corrosion	0.07					0.07
21	Port Fairy WRP site - access road		0.09				0.09
22	Portland Sewer Main replacement/refurbishment	0.20					0.20
23	Water Recycling	0.10	(0.08)	(0.70)	(0.70)		(1.38)
24	Warrnambool WRP Belt Filter Press	0.65					0.65
25	Warrnambool Stormwater Harvesting project	1.38					1.38
26	**Subtotal of Wannon Water's Proposed expenditure changes to Water Plan**	15.75	(8.83)	2.55	(0.83)	2.94	11.58

The review team's assessment is provided in **Table 5.4** following.

Table 5-4 Review Team's Assessment of Capex Changes compared with Wannon Water's Submitted Water Plan

Line Item	Project	2008/09	2009/10	2010/11	2011/12	2012/13	Total
1	**All other projects**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**-0.01**
2	Coleraine Pipeline	**-1.00**					**-1.00**
3	Macarthur Iron Sorption Plan	**0.50**					**0.50**
4	SCADA/Telemetry	**1.20**	**-0.15**	**-0.15**	**0.00**		**0.90**
5	Septage Receival at Hamilton & Warrnambool	**0.43**					**0.43**
6	Water Mains Replacement at Warrnambool	**0.15**					**0.15**
7	West Portland Sewer Scheme	**0.10**					**0.10**
8	Upgrade to Portland WRP		**0.46**	**3.51**		**-3.99**	**-0.02**
9	Warrnambool Office Construction	**0.38**	**-0.18**				**0.21**
10	Camperdown Water Treatment Plant Water Stabilisation	**0.15**					**0.15**
11	Hamilton WRP sludge management	**-0.17**					**-0.17**
12	Hamilton Tertiary WRP Pre-treatment system	**1.00**					**1.00**
13	Dutton Way Sewerage Services			**-0.25**	**-2.80**	**3.05**	**0.00**
14	Hamilton-Grampians Inter-connector Pipeline	**8.94**	**-9.22**				**-0.28**
15	Portland Aluminium RO Plant	**1.32**					**1.32**
16	Bald Hill No. 1 Bore replacement	**0.20**					**0.20**
17	Bald Hill No. 2 Bore replacement	**0.57**					**0.57**
18	Warrnambool WRP Digester	**-4.86**	**-1.69**	**-0.10**	**1.88**	**4.77**	**0.00**
19	Port Campbell WRP land purchase and irrigation	**1.35**					**1.35**
20	Port Fairy water tower corrosion	**0.07**					**0.07**
21	Port Fairy WRP site - access road		**0.09**				**0.09**
22	Portland Sewer Main replacement/refurbishment	**0.20**					**0.20**
23	Water Recycling	**0.10**	**-0.08**	**-0.70**	**-0.70**		**-1.38**
24	Warrnambool WRP Belt Filter Press	**0.65**					**0.65**
25	Warrnambool Stormwater Harvesting project	**1.38**					**1.38**
26	**Subtotal of Review Team's Proposed expenditure changes to projects**	**12.66**	**-10.76**	**2.31**	**-1.62**	**3.83**	**6.42**
27	**Total capex - as per Wannon Water's submitted Water Plan**	**25.16**	**43.80**	**12.82**	**16.77**	**11.54**	**110.09**
28	**Review Team Proposed Regulatory CapexCapex**	**37.82**	**33.04**	**15.13**	**15.15**	**15.37**	**116.51**

The review team's specific recommendations of the adjustments to Wannon Water's capital expenditure for regulatory pricing purposes are indicated in **Table 5.5**.

5.4 Recommendations

The review team recommends that for the five year regulatory period:

- The revised capital expenditure amounts and expenditure re-profiling for various projects as outlined in **Table 5.5** be adopted;
- The revised aggregate capital expenditure for each year as indicated in **Table 5.5** be adopted for regulatory pricing purposes, noting that this will reduce the peak expenditure in year two of the period and produce a "smoother" profile than that proposed originally in the Water Plan.

Table 5-5: Wannon Water: Recommended Changes to Regulatory Capital Expenditure Forecast

Change Item	Project/Description	Forecast	$M						
			2007-08	2008-09	2009-10	2010-11	2011-12	2012-13	Later Period
1	Hamilton Grampians Interconnector Pipeline	Original Water Plan:	0.52	3.78	29.90				
		Recommended Revised:	0.80	12.72	20.68				
		Recommended Net Change:	0.28	8.94	-9.22				
2	Office Building		1.43	3.70	3.63				
			1.23	4.08	3.45				
			-0.20	0.38	-0.18				
3	Upgrade to Portland WRP	Original Water Plan:	0.04	0.00	0.00	0.46	2.28	3.99	
		Recommended Revised:	0.04	0.00	0.47	3.97	2.28		
		Recommended Net Change:			0.47	3.51		-3.99	
4	SCADA / Telemetry Upgrade			0.34	2.49	0.15	1.57		
			-0.90	1.54	2.34	0.00	1.57		
			-0.90	1.20	-0.15	-0.15	0.00		
5	Casterton to Coleraine Pipeline		1.50	3.37					
			2.50	2.37					
			1.00	-1.00					
6	Dutton Way Services	Original Water Plan:		0.0	0.0	0.3	2.8	0.0	
		Recommended Revised:				0.00	0.00	3.05	
		Recommended Net Change:				-0.25	-2.80	3.05	
7	Warrnambool WRP Upgrade	Original Water Plan:	0.15	5.06	1.69	0.10	0.91		
		Recommended Revised:	0.15	0.20			2.79	4.77	
		Recommended Net Change:		-4.86	-1.69	-0.10	1.88	4.77	
8	Water Recycling	Original Water Plan:	0.03	0.05	0.08	0.70	0.70		
		Recommended Revised:	0.00	0.15					
		Recommended Net Change:	-0.03	0.10	-0.08	-0.70	-0.70		
9	General Adjustments *:shifts from 2007/08* *:consistency with WNW info to ESC on 07/08 , 08/09 shifts* *:new smaller projects in 2008/09 prop'd by WNW* *:review team adjustments*	Original Water Plan:		0.00	0.00	0.00	0.00	0.00	
		Recommended Revised:		7.91	0.08	0.00	0.00	0.00	
		Recommended Net Change:		7.91	0.08				
Total Recommended Net Change:			$ 0.15	$ 12.66	$ (10.76)	$ 2.31	$ (1.63)	$ 3.84	
Original Water Plan Total Regulatory Capex:				$ 25.16	$ 43.80	$ 12.82	$ 16.77	$ 11.54	
Recommended Revised Total Regulatory Capex:			**$ 0.15**	**$ 37.82**	**$ 33.04**	**$ 15.13**	**$ 15.14**	**$ 15.38**	

6. Operating Expenditure (Opex)

Table 6-1 presents a breakdown of historical and forecast operating expenditure which was compiled by the review team based on a range of information initially provided by Wannon Water.

There was significant discussion initially about the right quantum of Wannon Water's operational expenditure for the base year (2006/07). The review team notes that the ESC has confirmed Wannon Water's audited BAU operational expenditure for the purposes of this assessment (i.e. gross operational expenditure less water purchases, environmental contribution and licence fees) for 2006/07 to be $26.339M. This closely aligns with that submitted by Wannon Water in its Water Plan (viz. $26.335M).

The review team however notes that the sum of the historical and forecast operating expenditure for individual cost driver categories indicated in **Table 6.1** does not sum to the gross operating expenditure provided by Wannon Water in its Water Plan as submitted. The most significant difference is for 2012/13 where the discrepancy is $1.03M (noting that the differences for the first four years of the regulatory period almost net out).

Wannon Water has not provided its version of **Table 6.1**. Consequently the review team has had to progress with its assessment without this issue being fully resolved.

Major items influencing forecast expenditure are increases in power costs (almost doubling in real terms from the 2006/07 base) and labour costs (increasing by 20% in real terms over the period). Wannon Water has provided explanatory information on both of these items.

- **Table 6-1: Wannon Water - Historical and Forecast Operating expenditure by Cost Driver**

TABLE 5-1 (FIRST VISIT)	$K REAL (BASE 01/01/2007 IN RELEVANT YEAR)						
ITEM	2006/2007	2007/2008	2008/2009	2009/2010	2010/2011	2011/2012	2012/2013
Employee Costs	$ 10,693	$ 11,389	$ 12,397	$ 12,618	$ 12,760	$ 12,852	$ 12,952
Chemicals	$ 639	$ 657	$ 672	$ 712	$ 753	$ 793	$ 864
Contractors & Consultancies	$ 6,732	$ 6,897	$ 8,511	$ 7,785	$ 8,276	$ 7,932	$ 7,827
Electricity	$ 2,311	$ 2,339	$ 4,650	$ 4,728	$ 4,798	$ 4,802	$ 4,940
Other Goods & Services	$ 5,925	$ 6,028	$ 6,076	$ 6,087	$ 6,287	$ 6,280	$ 6,591
Environmental Contribution	$ 1,130	$ 1,130	$ 1,130	$ 1,130	$ 1,130	$ 1,130	$ 1,130
Licence Fees	$ 190	$ 240	$ 240	$ 240	$ 240	$ 240	$ 240
TOTAL OPEX (Based on Wannon Water's breakdown of cost information)	**$ 27,620**	**$ 28,680**	**$ 33,675**	**$ 33,300**	**$ 34,243**	**$ 34,029**	**$ 34,544**
GROSS OPEX (as per current Water Plan template)	**$ 27,655**	**$ 28,440**	**$ 33,850**	**$ 33,200**	**$ 34,500**	**$ 33,950**	**$ 33,510**
DIFFERENCE	**($35)**	**$240**	**($175)**	**$100**	**($257)**	**$79**	**$1,034**

Important Notes:

1) This table is as per "Table 5-1 Original" Sheet in the Excel Workbook "Summary Opex 04032008" from Wannon Water to the ESC and review team in response to the review team's Draft Report. The review team considers this is the closest representation of Wannon Water's business view of its Water Plan costs and notes the difference identified in the various years (last line in the table).
2) The ESC has confirmed Wannon Water's audited BAU operating expenditure for 2006/07 as $26.339M. This is to be used by the review team in its assessment. The review team notes that this matches closely with that indicated in the table above.

6.1 Derivation of the Variance from Target BAU Opex

Table 6-2 below summarises Wannon Water's forecast operating expenditure and shows the Target BAU Opex (growth adjusted) and "Variance from Target BAU Opex" derived in the manner explained in **Section 2**. Note this table is based on the correct base year regulatory BAU Opex confirmed by the ESC.

- **Table 6-2: Wannon 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	23.96	26.34	27.07	32.48	31.80	33.11	32.55	32.09
New obligations				-	0.03	0.03	0.03	0.05
Sub-total Opex	***23.96***	***26.34***	***27.07***	***32.48***	***31.83***	***33.14***	***32.58***	***32.14***
Bulk water charges	-	-	-	-	-	-	-	-
Licence fees	0.14	0.19	0.24	0.24	0.24	0.24	0.24	0.24
Enviro levy	1.13	1.13	1.13	1.13	1.13	1.13	1.13	1.13
Gross operating expenditure	**25.23**	**27.66**	**28.44**	**33.85**	**33.20**	**34.50**	**33.95**	**33.51**
Target BAU Opex			**26.47**	**26.57**	**26.68**	**26.79**	**26.93**	**27.07**
Variance from Target BAU Opex			**0.61**	**5.910**	**5.153**	**6.344**	**5.647**	**5.074**
Customers and Consumption								
Total customers ('000)	43.16	43.85	44.51	45.14	45.78	46.44	47.16	47.87
Growth relative to 2006-07		1.00	1.02	1.03	1.04	1.06	1.08	1.09

The total forecast operating expenditure (excluding bulk water charges, licence fees and the environmental levy) in the second regulatory period substantially exceeds the Target BAU Opex in every year, and exceeds the Target BAU Opex by $28.13M in aggregate. 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 Wannon Water 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. This indicates that (after allowing for growth) further productivity improvements may need to be considered.

The explanations of the variance involved are discussed in the following sections.

6.2 Additional costs relative to 2006/07 base ('Explanation of Variance')

Wannon Water advised the review team of a number of "new" / additional costs that it expects to incur during the regulatory period and that it regards as additional to the normal BAU Opex incurred in 2006/07. As such, these costs indicated the extent by which planned productivity improvements exceed 1% per year, after allowing for growth. The additional costs advised by Wannon Water are shown in **Table 6-3**.

- **Table 6-3: "New" Costs or Explanation of the Variance from Target BAU Opex submitted by Wannon Water**

Line Item	Description	Forecast Expenditure ($ 000 - real Jan 2007)					
		2008/09	2009/10	2010/11	2011/12	2012/13	Total
1	Increase in Electricity Costs (Price Effects)	2,343	2,328	2,313	2,299	2,284	11,567
2	Increase in Electricity Costs (Quantity Effects)	(19)	(34)	(49)	(63)	(78)	(243)
3	Increase in EFT (GHD Report)	718	744	762	768	775	3,766
4	EBA Increase	334	338	341	343	345	1,701
5	Band Increments	256	205	170	175	176	982
6	Opex from New Projects	1,015	1,133	1,617	1,521	1,607	6,892
7	Opex from Further New Projects	1,286	626	921	721	596	4,150
8	Increase in Chemical Costs	15	20	26	31	37	130
9	Maintaining and Restoring Land	28	28	28	28	73	186
10	Greenhouse Gas Offsets and Renewable Energy	120	144	168	192	215	839
11	Implementation of Sustainability Assessment and Reporting	15	15	58	58	58	204
12	Implement Research & Development Program	150	150	150	150	150	750
13	Recycled Water Management Program	70	70	70	70	70	350
	Total	**6,330**	**5,767**	**6,575**	**6,294**	**6,308**	**31,274**
	Variance from Target BAU Opex	5,910	5,153	6,344	5,647	5,074	28,128
	Difference	**420**	**614**	**231**	**647**	**1,234**	**3,146**

***Note**: This table is essentially as per the table shown in the review team's Draft Report and as provided by Wannon Water except that:*

- *The line "Base Year (adjustments) Based on Actuals" has been deleted. This item is not an explanation of the Variance from Target BAU Opex This matter has been resolved (with confirmation from the ESC that the regulatory BAU Opex in the base year of 2006/07 is $26.339M);*
- *A new line called "Opex from further New Projects" has been added as identified in discussions with Wannon Water on the Draft Report.*

*The review team notes that in Wannon Water's written response to the ESC there was no statement regarding the completeness of **Table 6.3** in the Draft Report and there was not comment in the text of Wannon Water's response that additional items should be added. However, based on discussions with Wannon Water (and to a lesser degree the tables attached to Wannon Water's written response) it was evident to the review team that Wannon Water wanted to add further items, notably additional costs associated with demand management. These were considered as part of the "Opex from Further New Projects" line item in the following sections.*

The review team considers that some of the "new/additional" costs proposed by Wannon Water should not form part of the justification for the Variance from Target BAU Opex. The review team's overall assessment of the items and the associated expenditures put forward by Wannon Water is provided in the following sections.

The review team notes that the section in the Draft Report relating to the "Base Year – Use of Audited Actual Opex" has been deleted from the Final Report following resolution of this issue.

6.2.1 Real Increases in Electricity Costs (Price Effects, New & Existing Demands)

Price Effects: Wannon Water advised that it had assumed a doubling in electricity prices based on information supplied by its current electricity provider (Utilicor).

Currently Wannon Water purchases electricity as follows:

- Hamilton Zone (67 sites):
  - Large sites: AGL
  - Small sites: AGL
- Warrnambool Zone and Portland Zone (177 sites):
  - Large sites: Simply Energy (previously Energy Australia)
  - Small sites: Power Direct.

The Warrnambool Zone contracts were established via a tendering process established by Utilicor and operate from 1 July 2005 to 30 June 2008. After merger the Portland Zone sites were transferred onto this contract. The Hamilton Zone contract was established via a group purchasing company (Strategic Purchasing Pty Ltd) under a tender process. The contracts commenced on 1 July 2005 and end on 30 June 2008.

Demands: The review team noted in the Draft Report that, based on the initial information provided by Wannon Water, the amount of energy being used was declining. This was based on adjusting the nominal forecast energy costs by inflation and noting that there has been a reduction since 2006/07. The review team discussed this issue with Wannon Water further given that the review team understood that Wannon Water is constructing a number of assets that will require significant additional energy and Wannon Water agreed that this was generally the case. The review team has removed the impact of declining energy requirements from the explanations from Target BAU.

The new energy demands are now understood to be provided for in the (new) Opex from New Capital Works line item in **Table 6.4**.

***Review Team Assessment*:** Wannon Water has advised that the basis of establishing its future real electricity costs is as indicated in **Table 6.4**. This is now consistent with **Table 6.1**. The review team notes that the annual electricity cost for base demands in each year is the same as for the base year ($2,311K).

- **Table 6-4: Wannon Water's Basis for Future Electricity Costs**

Item	Forecast Electricity Expenditure (Real $'000K)						
	2006/07	2007/08	2008/09	2009/10	2010/11	2011/12	2012/13
Base Operating Expenditure	2,311	2,311	2,311	2,311	2,311	2,311	2,311
Opex from New Capital Works	0	28	28	106	176	180	318
Anticipated New Contract Costs	0	0	2,311	2,311	2,311	2,311	2,311
TOTAL REAL (WANNON WATER)	**2,311**	**2,339**	**4,650**	**4,728**	**4,798**	**4,802**	**4,940**

Wannon Water has proposed overall real electrical energy cost increases relative to explain the Variance from Target BAU Opex of $2.34M, $2.42M, $2.49M, $2.49M and $2.63M in the respective years of the regulatory period (or $12.36M in aggregate).

The review team's approach to assessing energy price increases is as described in **Section 3.2.1** of this report. In summary, this provides for a real increase in electricity costs in 2008/09 of 12% relative to the base year (2006/07) and in all other years of 15% relative to the base year (2006/07).

- **Table 6-5: Review Team's Assessment of Wannon Water's Future Electricity Costs**

Item	Forecast Electricity Expenditure (Real $'000K)						
	2006/07	2007/08	2008/09	2009/10	2010/11	2011/12	2012/13
Base Operating Expenditure	2,311	2,311	2,311	2,311	2,311	2,311	2,311
Real Electricity Cost Increases on Base demands	0	0	277	347	347	347	347
Opex from New Capital Works	0	28	31	122	203	207	366
Review Team's assessment of Total Electricity Opex		**2,339**	**2,620**	**2,780**	**2,860**	**2,865**	**3,023**
Wannon Water's Proposed Total Electricity Opex ("Water Plan")	**2,311**	**2,339**	**4,650**	**4,728**	**4,798**	**4,802**	**4,940**
Variance from BAU Opex - Justifiable Real Cost Increases			**309**	**469**	**549**	**554**	**712**
Adjustment from Wannon Water's Proposed Electricity Opex			**(2,030)**	**(1,948)**	**(1,938)**	**(1,937)**	**(1,917)**

The review team considers that the appropriate real cost increases in electricity to be allowed (in the respective years of the regulatory period) are $309K in 2008/09 and $469K, $549K, $554K and $712K in the subsequent years (or $2593K in aggregate). These costs represent the justifiable Variance from BAU Opex.

The review team notes that these real cost increases are significantly less than Wannon Water's view. Consequently adjustments to Wannon Water's Water Plan Opex are required as indicated in the last line item of **Table 6.5**. These adjustments transfer directly to the Opex adjustments table in **Section 6.3**.

Other Issues: Wannon Water has indicated that:

- it has engaged "Strategic Purchasing Unit" to tender for the purchase of energy from 1 July 2008 to 30 June 2011 and understands that the majority of regional water corporations will participate in the Special Purchasing tender;
- it will wishes to have this issue reviewed (and its template amended if appropriate) following the conclusion of the electricity pricing contract when this data becomes available in late April 2008 and prior to the final determination by the ESC.

The review team broadly supports the approach that this matter be reviewed before the ESC's final price determination in the event that more certain contractual costs are available for assessment of efficiency. Regardless the real price increases contemplated by Wannon Water are not justifiable.

The review team notes that the Wannon Water was not able to provide detailed demand information, although this was not a material factor affecting the assessment as the new demands were considered reasonable in the context of the new capex projects proposed.

6.2.2 Labour Costs – Real Cost Increases

Increase in EFT Personnel Numbers*:* The review team's Draft Report indicated that Wannon Water's Water Plan assumes an increase in EFT (Equivalent Full Time) personnel from a base level in the 2006/2007 financial year of 166.3 FTEs to 177.9 FTEs by the end of the regulatory period. Wannon Water advised that the number of EFT has only increased by 8. The report initially supplied to the review team did show the increase as stated by the review team from 166.3 FTEs to 177.9 FTEs. However, Wannon Water had determined subsequently to contract out 3 meter reading positions rather than employ them directly. Wannon Water has advised that:

Engineering consultant GHD was engaged to undertake a business case review of the field based operations of Wannon Water including an assessment of the existing human resource levels for treatment plant operators, water and sewerage maintenance operators and mechanical and electrical employees against work loads and regulatory compliance obligations.

The outcome was that GHD recommended the recruitment of 11 new employees including:

- *3 No. Systems Operations employees to undertake meter reading.*
- *6 No. Treatment Plant operators*
- *1 No. Systems Operations Maintenance Officer*
- *1 No. fitter for Operations Support Team*

Wannon Water has proceeded with recruitment of all but the 3 meter reading positions and has made provision for expenditure for 8 personnel in the Water Plan. In lieu of recruiting meter reading staff Wannon Water contracted out meter reading and has made budget provision for this contract expenditure in the Water Plan (under the "Opex from Further New Projects" discussed later).

This increase includes additional resources within the Operations area as identified by a review undertaken by GHD and additional resources within the Retail and Corporate Services area as identified in the report from the General Manager of this area. The cost estimates provided by Wannon Water take account of a forecast reduction in overtime. The proposed increase in EFT is approximately 8 positions (and the contracting out of 3 meter reading positions which is discussed later in this report) which is less than proposed by some other authorities. It is evident to the review team that further resources are needed in a number of areas to improve performance. The review team notes that by undertaking an external review of resource needs that Wannon Water has taken steps to ensure that the need for resources has some measure of independent validation.

The review team indicated that in its Draft Report that the average cost per new position is less than $70K including on costs after consideration of reductions in overtime. This is similar to or less than what other authorities have allowed on a unit cost basis and is considered reasonable. However, based on the actual numbers employed the review team notes that the average cost per employee is $90K per annum which is considered to be on the high side of being reasonable.

EBA Increase: Wannon Water has advised that Wannon Water's proposed EBA includes a maximum increase of 4% per annum over its life to 30 September 2010. The Water Plan assumes this increase for all five years of the second regulatory period. Wannon Water advises that this amount includes a 0.5% component based upon proven efficiency gains.

As outlined in **Section 3.2.3,** real labour cost increases of 1.25% p.a. (above CPI) are the only component of labour cost increases (for a 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 are passed through as justifying explanations of the Variance from Target BAU Opex.

Band Increments: Wannon Water pays the majority of its employees under a job classification system with salary bands (or increments) according to the responsibility of the position occupied. The percentage increase of these increments is not consistent across all bands. Employees are able to progress through the increments to a higher level on an annual basis, dependent on performance (a structured review of their performance and personal development during the previous twelve months) and experience.

Wannon Water provided (as requested) information on the age and tenure profiles of its employees, including a forecast. The review team noted that the average tenure and age of Wannon Water's staff were expected to increase based on the figures supplied (assuming no resignations and reasonable staff turnover). In discussions with Wannon Water the review team was given some examples of the recent competition in the labour market and of a number of employees that have recently resigned. However on the basis of further discussion, the review team considered that Wannon Water's position in this regard was little different from other businesses. The review team discussed with Wannon Water various other points of view including changes in customer expectations and industry standards.

The review team indicated in its draft report that, as for the EBA related increases, the increments are also assumed to be absorbed within the labour budget and have offsetting productivity gains. In correspondence to the ESC on 5 March 2008, Wannon Water noted that it is obligated to the pay eligible employees band increments based upon satisfactory performance rather than productivity improvements as assumed by the SKM review team.

The review team notes Wannon Water's view but reaffirms that it is not querying Wannon Water's obligation to pay these (and other) entitlements or that the entitlements are unreasonable. Rather 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.

Overall assessment: The review team's overall assessment of Wannon Water's forecast labour costs is as indicated in **Table 6.6**. In summary, the key issues informing the basis of the assessment of prudent and reasonable operating expenditure for regulatory pricing purposes (consistent with the approach taken for all businesses) is:

- An allowance for increases in real costs of 1.25% p.a. on labour costs (cumulative) relative to the base year (line 12, **Table 6.6**);
- An allowance for prudent additional/new resources to meet Wannon Water's reasonable business needs (line 14, **Table 6.6**). [NB: This assumes an average cost of $80K p.a.

including on-costs, noting that this is greater than Wannon Water's current average employee cost). These costs are also escalated by 1.25% p.a. real.

- No allowance for band increments (for the reasons indicated in this section).

Table 6-6: Review Team's Assessment of Wannon Water's Forecast Labour Costs

Line Item	Item Description	Expenditure ($M or $'000K as indicated - real Jan 2007)						
		2006/07	2007/08	2008/09	2009/10	2010/11	2011/12	2012/13
	Wannon Water VIEW - based on information provided							
1	Total labour cost - as per Water Plan template ($M)	10.733	11.389	12.397	12.618	12.760	12.852	12.952
2	Labour: existing personnel - Base costs incl'g on costs ($M)	10.733	10.733	10.733	10.733	10.733	10.733	10.733
3	Labour: new personnel - Base costs incl'g on-costs ($M)		0.324	0.668	0.703	0.740	0.746	0.752
4	Labour: existing & new personnel - increments, EBA other ($M)		0.332	0.996	1.182	1.287	1.373	1.467
5	Total number of labour and staff	166.9	170.9	174.9	174.9	174.9	174.9	174.9
6	Base year staff	166.9	166.9	166.9	166.9	166.9	166.9	166.9
7	New staff - (as per WNW advice)		4.0	8.0	8.0	8.0	8.0	8.0
8	Average cost of labour and staff ($K/year)	64.3	68.2	74.3	75.6	76.5	77.0	77.6
9	WNW assumed average cost of new labour and staff ($K/yr)		90.00	90.00	90.00	90.00	90.00	90.00
10	**Review Team Assessment**							
11	Base Labour Costs allowed ($M)	10.733	10.733	10.733	10.733	10.733	10.733	10.733
12	Real increases in allowed base labour costs ($K)		134.2	270.0	407.5	546.8	687.8	830.6
13	Implied number of new FTE provision (*full year basis*)		3.0	6.5	9.0	9.0	9.0	9.0
14	Provision for new labour costs (including 20% on-cost) -all categories ($K)		240	527	738	747	757	766
15	Total Labour Opex allowed (= sum of Lines 11,12 & 14), ($M)			11.530	11.879	12.027	12.177	12.330
16	Total increase in real labour costs recommended from 06/07 = Accepted Explanation of Variance from Target BAU Opex ($M)			0.797	1.146	1.294	1.444	1.597
17	**Difference (Line 15 - Line 1) = Adjustment required ($M)**			(0.867)	(0.739)	(0.733)	(0.675)	(0.622)

Note: The increase in FTE numbers include the water recycling manager - refer **Section 6.2.10**.

In summary, the review team considers that:

- The real labour cost increases as justifiable explanations for Variance from Target BAU Opex are as indicated in Line 16, **Table 6.6**; and
- The adjustments required to be made to Wannon Water's labour cost operating expenditure in its Water Plan is as indicated in Line 17, **Table 6.6**. These amounts are to be transferred to the table of recommended adjustments to Wannon Water's Water Plan operating expenditure in **Section 6.3**.

6.2.3 Opex from New Projects

Wannon Water has proposed as an explanation of the Variance from Target BAU Opex expenditure associated with "new projects". The amounts originally put forward are as indicated in **Table 6.3** (Line Item 3) and in the first line in **Table 6.7** below. The details of these amounts are discussed later.

In the review team's Draft Report a number of items were identified as items that were potentially double-counted and/or which required further justification.

Wannon Water in its response to the ESC and the review team acknowledged that the amounts originally proposed for "Opex from New Projects" should be reduced for the following reasons:

- The following Line Items which are identified separately in **Table 6.3** were also included in the "Opex from New Projects" in that table and were therefore double counted. These items which are to be assessed separately (as identified in **Table 6.3**) are
  - Line Item 9: "Maintaining and Restoring Land"
  - Line Item 11: Implementation of Sustainability Assessment and Reporting"
  - Line Item 12: Implementation of Research and Development Program"
  - Line Item 13: Recycled Water Program

  The aggregate annual expenditure of these items is indicated in the second item of **Table 6.7** below.
- The provision of $364K p.a. associated with upgrade of the existing WAN links is no longer required as Wannon Water has decided to remain with its current provider. This is shown in the third item in **Table 6.7**.

The revised expenditure associated with "Opex from New Projects" to be considered for explaining the Variance from Target BAU Opex is indicated in the last line of **Table 6.7.**

- **Table 6-7: Revised View of Opex from New Projects (following Draft Report)**

Item	Expenditure ($'000K, real Jan 2007)					
	2008/09	2009/10	2010/11	2011/12	2012/13	Total
WNW Initial Proposal - refer line Item 6, Table 6.3	1015	1133	1617	1521	1607	6893
Double counting adjustments - covered by line items 9, 11, 12 &13 in Table 6.3	263	263	306	306	351	1489
WAN Costs (not necessary, continuing with current arrfangements)	364	364	364	364	364	1820
Revised "Opex from New Projects"	388	506	947	851	892	3584

Wannon Water has also now provided the review team with a revised list of projects to support the above revised view of "Opex from New Projects". This list comprises Opex increases for new/additional activities and new Opex from new Capex.

The review team has assessed each of the items on the list provided by Wannon Water and categorised them as follows, with the broad an assessment of each indicated.

In particular the expenditure associated with the following items are considered reasonable and prudent and justified as contributing to the explanation of Variance from Target BAU Opex:

- Meter reading contract costs estimated at $190K p.a. ($950K over the period, increased from the original estimate of $825K over the regulatory period)
  - This is an extension of current BAU arrangements and equivalent expenditure would be required if the 3 positions (indicated by the GHD review) had been employed to undertake this work.
- Opex from New Capex (amounts in brackets are total expenditure over the period and total $2437K)
  - Hamilton WTP Flouride ($60K)
  - Casterton to Coleraine Pipeline ($166K)
  - Dunkeld WRP Lagoon Aerator ($39K)
  - Grampians Pipeline ($732K)
  - Hamilton Biosolids Upgrade ($132K)
  - Hamilton Septage Receival Facility ($89K)
  - Balmoral WTP Upgrade ($285K, increased from $200K originally estimated)
  - Peterborough Sewer Scheme ($425K)
  - Macarthur WTP Upgrade ($115K, reduced from $200K originally estimated)
  - Port Fairy WRP Upgrade ($154K)
  - Tarrington Chlorine Dosing System ($40K)
  - Portland WRP upgrade ($200K)
- Other Recurrent Activity: Implementation of a Uniform Approach to Water Quality Management ($100K considered reasonable in the context of new requirements imposed on Wannon Water by the ADWG).

The review team notes that the total of the above is $3487K across the period, which compares closely with the aggregate expenditure for “Opex from New Projects” indicated in the last line of **Table 6.7** (of $3584K).

The profile of this additional expenditure (Opex from New Projects) as indicated by Wannon Water is somewhat different from that implied in **Table 6.7**. The expenditure profile is:

- 2008/09: $415K
- 2009/10: $529K

- 2010/11: $800K
- 2011/12: $784K
- 2012/13: $958K

In making the above assessment the review team notes that:

- The Portland WRP operational cost of Portland WRP of $400K p.a commencing in 2012/13 has been halved as no detailed estimate was sighted, this cost prima facie appears high (and may include some or all of the costs of the existing plant operation, i.e. is not the net real cost increase) and some uncertainty still exists around the exact commencement date;
- The Warrnambool WRP upgrade costs have not been considered as they do not commence until the third regulatory period following completion of construction at the end of 2012/13 (as acknowledged by Wannon Water);
- The Camperdown IWRP Lagoon Reconfigeration costs ($99K for the period) have been deleted as this is efficiency driven and it is expected that offsetting cost savings would be generated.
- Some minor individual costs each totaling less than $25K *for the regulatory period* (and totaling $71K over the period) have been deleted as these are expected to be covered by the growth adjustment factor in setting the Target BAU. These items include Hamilton North Water Tower Construction ($20K), Warrnambool Wangoom Rd Sewer Scheme ($11K), Warrnambool Riverview Terrace PS Upgrade ($3K), Warrnambool Hopkins Point Rd Tower Upgrade ($10K), Warrnambool Nicholson St PS Booster ($2K) and Warrnambool Stormwater Harvesting ($25K);
- Efficiency audits expenditure ($50K) has been removed as it is considered to be BAU expenditure;
- Expenditure on the Dutton Way sewerage scheme has not been considered as this scheme will not be completed until the end of the period with operational costs not being incurred until beyond 2012/13;
- Expenditure associated with water recycling scheme has been removed as such schemes have been deferred (refer Capex section), as proposed by Wannon Water;
- It has not been able to assess each item in detail but is sufficiently satisfied in broad terms that the costs proposed are prudent and reasonable. The Hamilton Interconnector expenditure may be on somewhat high depending on the quantities of water ultimately needed and pumped through this system. The review team however has left this expenditure unchanged.
- Some costs have shifted from the original information provided.

In summary, given all the uncertainties and the accuracy of the estimated costs the review team recommends that the following real increases in operational expenditure due to “New Projects”

(and not considered separately elsewhere in **Section 6.2**) be adopted as a contribution to justifying the Variance from Target BAU Opex:

- $400K, $506K, $947K, $851K and $892K in each of the respective years of the second regulatory period (and $3.596M in aggregate).

[NB: The following list of items in the List Relating to Identified Productivity is noted. Removal of these items from the list reduces the amount of Variance from Target BAU Opex that Wannon Water is required to explain).

- SCADA Installation ($12K)
- Mobile Information Management System ($167K)
- Pipeline Water Pressure Adjustments ($2K)
- Radio Frequency Meters ($2K)
- Port Fairy SPS Upgrades ($3K)
- Warrnambool Connemarra Rd PS Upgrade ($15K).]

6.2.4 Opex from Further New Projects

During the review, Wannon Water provided an additional list of projects which will result in increased operational expenditure that should be considered as further explanations of the Variance from Target BAU Opex. This list which provided a detailed breakdown of such expenditure was entitled "Opex from Further New Projects" and involved expenditure not considered in the items identified in **Section 6.2.3**. The review team considered the list in the same manner as indicated in **Section 6.2.3**.

The total forecast "Opex from Further New Projects" expenditure proposed by Wannon Water is $4,150K over the period. The major component of this is expenditure proposed on demand management initiatives associated with the following (numbers in brackets are total expenditure over the period):

- Cavendish branch to Hamilton storages and WTP - Hamilton System ($470K)
- Gellibrand/Arkins Junction to Ewens Hill Intake - Otway System ($1362K)
- Port Fairy - Other System ($449K)
- Portland - Other System demand management measures ($449K)

The total expenditure proposed for these demand management measures over the period is $2,730K, with expenditure profile over the period being $905.5K, $515.5K, then $436K in each of the last three years.

The review team sighted and considered Wannon Water's Water Supply Demand Strategy that is driving these demand management initiatives and is satisfied that the proposed initiatives are prudent and reasonable.

The review team considered the demand management measures in detail as they represented the largest cost items. The review team considered that there was a thorough discussion of the outcomes of these measures in Wannon Water's water supply demand strategy and that demand management was economic on a per kilolitre basis (approximately between $0.30 and $0.50 / kL). A further breakdown of the costs was provided by Wannon Water and these included production of a best practice manual for rural customer demand management, water modelling to determine areas of high leakage and acoustic field testing and repair to identify specific leaks. The programs are intended to be implemented by consultants rather than Wannon Water personnel. Wannon Water advised that it had not previously undertaken any work of this nature (in the 2006/07 base year).

Overall, the review team did not gain sufficient confidence about the robustness of the cost estimates provided. Further, the review team:

- has reservations that Wannon Water can implement all these measures concurrently across these systems at the levels of expenditure indicated for 2008/09;
- expects that the costs for these measures should decrease over time and at some point reach a lower level than indicated for the later years of the period. That is some more rapid phasing down of expenditure might be expected;
- generally considers that the costs are on the high side for regulatory pricing purposes.

Given all these considerations, the review team proposes, *for regulatory pricing purposes*, that the prudent and reasonable expenditure for these demand management initiatives be 80% of that proposed by Wannon Water, viz:

- $2185K in aggregate across the period; with an expenditure profile of
- $725K (2008/09), $410K (2009/10) and $350K (in each of 2010/11, 2011/12 and 2012/13).

Other expenditure items for which the proposed expenditure is considered reasonable and prudent as representing real cost increases relative to 2006/07 include (numbers in brackets indicate the total expenditure across the period):

- Casterton - WRP Desludging of Lagoon ($375K)
- Hamilton - WRP Desludging of Lagoon 1 ($92K)
- Water Supply Demand Strategy ($131K)
- Biosolids management review/Authority Wide ($63K)
- Bulk Entitlement Metering and Environmental Programs ($50K)
- Drought Response Plan Review ($100K)

These minor items generally relate to Statement of Obligations and the review team considers them to be reasonable.

The basis of the provision of expenditure for the "Establishment of expanded Reclaimed Water infrastructure at various sites throughout Wannon Water's area (allowance for Hamilton)" of $100K p.a. (or $500K in total over the period) is unclear. For the time being the review team has accepted that it contributes to the Variance from Target BAU opex but this needs to be more substantially justified.

The following items were considered to be BAU and/or covered by the growth adjusted Target BAU Opex and/or not relevant for this period, and were therefore not considered as a contribution to justifying the Variance from Target BAU Opex.

- Environmental flow compliance audit ($50K)
- Implementation of Environmental Management System (IMS) ($20K)
- Procedure development and audits to satisfy Terrorism Act ($40K)
- Dilwyn sustainability investigation (No expenditure)
- Macarthur, Darlington, Tullich, Caramut, Penshurst groundwater sustainability investigations

The last two items should be covered by Wannon Water's R&D program and would seem to be of higher priority than some of the R&D projects nominated.

In summary the review team recommends that for "Opex from Further New Projects" expenditure by Wannon Water post submission of the Water Plan that:

- The amounts justified as explaining the Variance from Target BAU Opex be
  - $1035K (2008/09), $625K (2009/10), $835K (2010/11), $650K (2011/12) and $510K (2012/13); or
  - $3,655 in aggregate over the period(approximately $495K less than proposed by Wannon Water)
- If appropriate during finalization of its decision the ESC could seek further clarification of whether the reclaimed water infrastructure costs are fully justified.

6.2.5 Increase in Chemical Costs

Wannon Water advises that following discussion with the management of its Treatment Operations team that both Orica and Omega (Wannon Water's chemical suppliers) have indicated that a price increase of between 4% and 5% is expected due to the increased cost of labour, fuel and raw materials and that Wannon Water has no choice but to change chemicals to meet compliance, such as resolving issues associated with aluminium, manganese and iron in water supplies which were not present prior to the recent drought conditions. In its Draft Report the review team indicated

that clarity on whether this is a one-off real price increase (net of CPI) or a cumulative real price increase or not was required. Wannon Water advised that;

"The tenders for chemical costs for the next 3 years have closed and are currently being assessed for awarding contracts. Attached are the projected bulk chemical costs sourced from tenders received for the new chemical contracts which will be valid until June 2010.

Where chemical prices have not yet been tendered Wannon Water sought advice from current suppliers and manufacturers on likely future costs of chemicals.

In summary, the overall price increase for chemicals through to 30 June 2010 based on the actual tender prices received is 8.5%. Allowance will also have to be made for changes to these price increases from 1 July 2010 through to 30 June 2013."

Wannon Water provided the review team with a thorough break down of all its chemical requirements and expenditures by chemical and by asset. Wannon Water has provided a table of costs associated with its new chemical contract.

The review team has confirmed that there appears to be an 8.5% real increase in chemical costs (compared to 06/07 prices) for Wannon Water. This 8.5% real increase equates to approximately $54K per year.

The review team considers that the real chemical cost increases proposed are justified, prudent and reasonable in quantum. The review team recommends no change to this expenditure.

6.2.6 Maintaining and Restoring Land

Wannon Water owns 2,500 Ha of land, some of which is considered to be degraded. Wannon Water proposes to restore 5 Ha of land each year of the second regulatory period. The driver for this program is Section 24.2 of Wannon Water's Statement of Obligations which relates specifically to management of land under Wannon Water's control. The cost estimate for the program is based on $4,500 per hectare for establishment including mapping, fencing, vermin control, site preparation and planting. Management and Maintenance of established areas is based on $500 per hectare per year which includes weed control, fertiliser, insect and browsing pest control and analysis of the success of biodiversity changes due to rehabilitation works.

The review team considers that the program is justified and that the proposed operating expenditure is reasonable and prudent. The review team considers that the proposed operating expenditure is justified as contributing to the explanation of Variance from Target BAU Opex. No changes are recommended to the expenditure for this activity.

6.2.7 Greenhouse Gas Offsets and Renewable Energy

Wannon Water currently produces approximately 40,000 tonne of greenhouse gases each year. Wannon Water proposes to reduce its emissions by 10 percent or 4000 tonnes. This program is in response to Statement of Obligation Clause 24.2 which relates to climate change. Half of the proposed reduction will be achieved through the purchase of green energy and the other half through the purchase of carbon offsets (or establishment of its own carbon offset program). The review team has described its approach to greenhouse expenditures in **Section 3.1.2** of this report. Based on $20 per tonne of carbon (as detailed in **Section 3.1.2**) the cost of this program should be $80K per year when it is fully implemented.

Following the Draft Report Wannon Water advised (in information tabled at its second discussion with the review team) that;

"T*he cost/tonne methodology adopted by the review team is simplistic, inconsistent with the market basis for prices established in the RMIT review, and demonstrates a lack of understanding of the price of carbon offset projects.*

The costs which form the basis of the figures in the RMIT work quoted by the review team are calculated in a variety of means, and RMIT point out that these costs have not been verified for all providers. The RMIT review uses the figures published by the various providers, and does not analyse the methodologies used. The calculation of the Present Value Cost/tonne of CO2 equivalent (otherwise called the "cost/tonne") includes the future value of the carbon and is calculated over the length of the offset project. The costs and pricing information adopted by Wannon Water were provided in a formal quotation provided by CO2 Australia Limited. A comparison of the companies costs and accreditation can be found in an updated to the RMIT review used by the review team (refer to www.carbonoffsetguide.com.au). The updated review indicates that the published Present Value Cost per tonnee is $16 for CO2 Australia Limited, well within the reasonable price of $20/tonne nominated by the review team.

The quotation obtained by Wannon Water from CO2 Australia includes their calculation methodology and indicates that the average present value cost of carbon over the life of the carbon sink proposed is A$7.51/t CO2e if established on Wannon Water land and A$9.88/t CO2e if based on third party land (the "normal" approach). Their modelling provides a range of outcomes depending on the use of alternate ABARE and NETS carbon price forecasts. The figures above use the "low" future carbon prices published by ABARE and therefore may be lower per tonne of carbon depending on future market trends.

Wannon Water concludes that the price obtained from CO2 Australia is very competitive, below their current published pricing in the market place, below the "reasonable price" nominated by the review team, and based on a methodology that enables comparison with the various other market

providers reviewed by RMIT. It is recommended that the funding provision included in the Water Plan remains as initially published."

The review team notes the response by Wannon Water and the significant knowledge that Wannon Water has in regard to the issues involved. The review team believe that Wannon Water's analysis on this issue and sustainability issues in general is being well managed.

Further to the advice above, Wannon Water provided detailed in-confidence information to the review team on the cost structure of carbon offsets being offered by CO2Australia. In broad terms the offer put to Wannon Water by CO2 Australia includes a lot establishment cost, a lot replant cost and an annual lot management fee (either involving Wannon Water's land or other land). Wannon Water proposes to offset an additional 1 percent of its carbon emissions in each year of the second regulatory period so that by the end of the five year second regulatory period it will be offsetting 5 percent of its emissions.

With the above explanation it is now clear to the review team that the high costs associated with Wannon Water's greenhouse reduction program are associated with establishing a tree plantation and that these costs will be substantially reduced in the third regulatory period. Wannon Water has indicated to the review team that it will decide whether to enter into the offset program once the price of green energy has been established. The review team considers that the approach adopted by Wannon Water is prudent and reasonable.

Nevertheless, for regulatory pricing purposes the review team considers that allowance of $80K (4,000 tonnes multiplied by $20 per tonne of carbon) per year is reasonable. This means that during the second regulatory period that Wannon Water would need to finance the difference between this allowance and what they would pay to CO2 Australia (should they proceed down this path) and that these costs would then be recovered in the third and subsequent regulatory period. The review team considers that this is the easiest way forward, otherwise at the time of the next review the ESC would need to make adjustments for the high establishment costs associated with the carbon offset program.

This costing approach recommended by the review team does not mean that it considers the procurement approach being adopted by Wannon Water as unreasonable or not good business practice. Rather the review team has made this recommendation for pricing purposes (and to avoid the possibility of unreasonably building in the higher short term costs associated with Wannon Water's approach into its BAU expenditure base). The review team considers, based on the explanations provided, that the procurement process being conducted by Wannon Water is thorough.

The review team considers the cost of the program to be reasonable, but for pricing purposes has reduced the expenditure associated with an explanation of Variance from Target BAU Opex to $80K per annum. After discussions with Wannon Water following its correspondence of 5 March 2008 to the ESC, the review team understands that Wannon Water agrees with this pricing approach, but stresses that financing, funding and third term regulatory reviews need to be considered by the ESC in the context of the above discussion.

6.2.8 Implementation of Sustainability Assessment and Reporting

Wannon Water's Board has recently approved a Sustainability Policy. The Policy has been developed in accordance with Sections 24 and 25 of the Statement of Obligations. The review team has reviewed the sustainability policy and considers that it is justified and consistent with Wannon Water's Statement of Obligations.

The review team considers that the proposed operating expenditure is reasonable and justified as contributing to the explanation of Variance from Target BAU Opex. No changes are recommended to the expenditure for this activity.

6.2.9 Implement Research and Development Program

Clause 23 of Wannon Water's Statement of Obligations essentially requires it to implement a Research and Development Program. At this time Wannon Water proposes to undertake research in the areas of hormones in treated waste water and chemicals used in water treatment. It proposes to establish or expand programs with the WQ CRC and Deakin University. Wannon Water has developed an Innovation Strategy to ensure that expenditure is targeted and efficient.

The review team considers that $150K per year is a significant amount to spend on Research and Development. While it is prudent for Wannon Water to be working on the topics that it has outlined (regardless of whether the work is described as research or not), the review team considered whether this information could not be obtained by dialogue and information sharing with the major metropolitan and/or regional urban water authorities and/or the water industry peak bodies (WSAA, VicWater) who have undertaken extensive related studies already (even if that required a modest financial contribution from Wannon Water).

The review team indicated that it would like to further discuss with Wannon Water what the unique aspects of its research and development program are that would justify $150K p.a. in each year of the regulatory period. The review team has sighted a broad research and development plan but the specifics of the plan were not well developed, particularly for the later years of the regulatory period.

Wannon Water has provided the following response along with further information.

Research by definition, is the creation of new knowledge. As such, the opportunity to obtain this information from dialogue and information sharing with other agencies does not exist. There are common issues requiring research across the industry and Wannon Water strongly endorses a partnership approach to research where ever possible. Wannon Water has a dedicated team who can establish these partnerships, seek out the most appropriate research providers and proactively manage research projects on behalf of funding partners.

The review team notes that the scale of funding allocated would support a level of work typically undertaken by a CRC or University. Wannon Water has indicated that it will join Water Quality Research Australia Limited from 1 July 2008. WQRA is a commercial research provider being established to provide support to the Australian water industry following the closure of the current CRC for Water Quality and Treatment. WQRA currently has confirmed membership from a number of the Victorian water industry regional water corporations. The expected membership cost to Wannon Water will be $50K per annum plus any associated on-site costs for projects established by WQRA and travel to attend research activities and seminars. This single stream of research will therefore be in excess of one third of the total research allocation included in the Water Plan."

Other specific research that Wannon Water intends to engage in includes;

- Ground water research given that a number of its towns are solely supplied by ground water and given that a lot of research has been undertaken in surface water. Wannon Water proposes to partner with DSE and Southern Rural Water in relation to this work.
- Biosolids research, which will be undertaken in conjunction with Smart Water and URS.

The review team considers that the proposed operating expenditure is broadly reasonable and justified as contributing to the explanation of Variance from Target BAU Opex. However, Wannon Water indicated that the research into the ground water was to fall within another program (and this issue is discussed further below). It is recommended that the expenditure be left at $150K p.a. for this activity on the basis that this represents approximately 0.5% of total annual Opex which is considered reasonable and on the basis of the specific initiatives discussed above.

6.2.10 Recycled Water Management Program

Wannon Water has created a new position for a Recycled Water Manager. The position will be responsible for undertaking the activities set out in a Recycled Water Strategy that was recently approved by Wannon Water's Board. The position is generally required in accordance with clauses 24, 25, 27 and 28 of Wannon Water's Statement of Obligation. Furthermore, Wannon Water has a number of recycled water opportunities to investigate, implement and manage (see **Section 6**).

The review team sought clarification from Wannon Water that the expenditure for this position has not been included in the expenditure provided for additional personnel as outlined in **Section 6.2.2,** (i.e. whether this is an additional position to the 11 new positions previously discussed). Wannon Water confirmed that this was a separate position and that the expenditure required for additional personnel was in the Operations department.

The review team considers that the proposed operating expenditure is reasonable and prudent and is justified as contributing to the explanation of Variance from Target BAU Opex. No changes are currently recommended to the expenditure for this activity.

The review team has also allowed for the expenditure for this position in **Table 6.6** (labour costs).

6.2.11 Overall Assessment of Explanations of Variance to Target BAU Opex

Based on the discussion as outlined in **Sections 6.2.2** to **6.2.10**, the review team's preliminary views on the items put forward by Wannon Water as justifying the Variance to Target BAU Opex in the five years of the regulatory period is summarised in **Table 6-8** below.

- **Table 6-8: Review Team Assessment on Costs Contributing Towards the Explanation of the Variance from Target BAU Opex**

Line Item	Description	Forecast Expenditure ($ 000 - real Jan 2007)					
		2008/09	2009/10	2010/11	2011/12	2012/13	Total
1	Increase in Electricity Costs (Price Effects, Existing demands)	277	347	347	347	347	1,665
2	Increase in Electricity Costs (Quantity Effects)	31	122	203	207	366	929
3	Increase in EFT	527	738	747	757	766	3,535
4	Labour Real Cost Increase (1.25% p.a.)	270	408	546	687	829	2,739
5	Band Increments	-	-	-	-	-	-
6	Opex from New Projects	400	506	947	851	892	3,596
7	Opex from Further New Projects	1,035	625	835	650	510	3,655
8	Increase in Chemical Costs	54	54	54	54	54	272
9	Maintaining and Restoring Land	28	28	28	28	73	186
10	Greenhouse Gas Offsets and Renewable Energy	80	80	80	80	80	400
11	Implementation of Sustainability Assessment and Reporting	15	15	58	58	58	204
12	Implement Research & Development Program	150	150	150	150	150	750
13	Recycled Water Management Program	Included in Line Item 3 above					-
	Total	**2,867**	**3,073**	**3,996**	**3,869**	**4,125**	**17,931**
	Variance from Target BAU Opex	5,910	5,153	6,344	5,647	5,074	28,128
	Difference	**(3,043)**	**(2,080)**	**(2,348)**	**(1,778)**	**(949)**	**(10,197)**

To achieve a productivity gain of 1% (after allowance for growth) the operating expenditure has to be adjusted/reduced by the quantum indicated in the bottom line of **Table 6-8** above (i.e. the Difference between the Total of Justified Additional Expenditure [third last line] and the Variance from Target BAU Opex. [second last line]).

The review team notes that:

- The sum of the new/additional expenditure associated with the items put forward by Wannon Water as justifying the Variance to Target BAU Opex falls significantly short of a full explanation of the Variance.
- In aggregate over the five years of the regulatory period there is a shortfall (or unexplained amount) of $10.22M in expenditure to justify the Variance from Target BAU Opex.

The implication of this assessment is that the target productivity improvement of 1% per annum (after growth) specified by the ESC will not be achieved in any of the years of the regulatory period and that an appropriate productivity adjustment is required.

Any further adjustment (reduction) in Wannon Water's Water Plan Opex required plus the other specific adjustments proposed (refer **Table 6-9**) must at least equal the shortfall in explaining the Variance from Target BAU Opex (last line **Table 6-8**).

6.3 Conclusions and Recommendations

The review team recommends that the adjustments to Wannon Water's Water Plan operating expenditure for regulatory pricing purposes be made as outlined in **Table 6-9.**

- **Table 6-9: Recommended Adjustments to Wannon Water's Operational Expenditure for Regulatory Purposes**

Change Item	Item/Description	Forecast	$M				
			2008-09	2009-10	2010-11	2011-12	2012-13
1	Electricity adjustments (Price and Demand)	Original Water Plan:	4.65	4.73	4.80	4.80	4.94
		Recommended Revised:	2.62	2.78	2.86	2.87	3.02
		Recommended Net Change:	-2.03	-1.95	-1.94	-1.94	-1.92
2	Labour Cost adjustments	Original Water Plan:	12.40	12.62	12.76	12.85	12.95
		Recommended Revised:	11.53	11.88	12.03	12.18	12.33
		Recommended Net Change:	-0.87	-0.74	-0.73	-0.68	-0.62
3	Additional "Productivity" Contribution [to achieve ESC specified minimum productivity improvement of 1% pa (after growth)]	Original Water Plan:	0.00	0.00	0.00	0.00	0.00
		Recommended Revised:	0.00	0.00	0.00	0.00	0.00
		Recommended Net Change:					
		Total Recommended Net Change:	$ (2.90)	$ (2.69)	$ (2.67)	$ (2.61)	$ (2.54)
		Original Water Plan Total Regulatory Opex:	$ 33.85	$ 33.20	$ 34.50	$ 33.95	$ 33.51
		Recommended Revised Total Regulatory Opex:	**$ 30.95**	**$ 30.51**	**$ 31.83**	**$ 31.34**	**$ 30.97**

Note:

- A specific productivity adjustment is not necessary as the sum of the other adjustments downwards in Wannon Water's recommended regulatory Opex is at least equal to that indicated in **Table 6-8** overall and for every year of the regulatory period other than for 2008/09.
- The review team considered that removal of the WAN link expenditure should also be removed from the proposed regulatory Opex base but was not able to resolve this issue conclusively. Table 6-8 represents a conservative view. If the WAN link expenditure was to be included as an adjustment the recommended revised regulatory Opex would be as indicated in the table below.

Change Item	Item/Description	Forecast	$M				
			2008-09	2009-10	2010-11	2011-12	2012-13
1	Electricity adjustments (Price and Demand)	Original Water Plan:	4.65	4.73	4.80	4.80	4.94
		Recommended Revised:	2.62	2.78	2.86	2.87	3.02
		Recommended Net Change:	-2.03	-1.95	-1.94	-1.94	-1.92
2	Labour Cost adjustments	Original Water Plan:	12.40	12.62	12.76	12.85	12.95
		Recommended Revised:	11.53	11.88	12.03	12.18	12.33
		Recommended Net Change:	-0.87	-0.74	-0.73	-0.68	-0.62
3	WAN Adjustment	Original Water Plan:	0.36	0.36	0.36	0.36	0.36
		Recommended Revised:	0.00	0.00	0.00	0.00	0.00
		Recommended Net Change:	-0.36	-0.36	-0.36	-0.36	-0.36
4	Additional "Productivity" Contribution [to achieve ESC specified minimum productivity improvement of 1% pa (after growth)]	Original Water Plan:	0.00	0.00	0.00	0.00	0.00
		Recommended Revised:	0.00	0.00	0.00	0.00	0.00
		Recommended Net Change:					
Total Recommended Net Change:			$ (3.26)	$ (3.05)	$ (3.03)	$ (2.98)	$ (2.90)
Original Water Plan Total Regulatory Opex:			$ 33.85	$ 33.20	$ 34.50	$ 33.95	$ 33.51
Recommended Revised Total Regulatory Opex:			**$ 30.59**	**$ 30.15**	**$ 31.47**	**$ 30.97**	**$ 30.61**

References

1) Water Services Association of Australia, 2007, National Performance Report, 2005-06: Major Urban Water Utilities.
2) South West Water Authority, 2003, Project Evaluation Report for the Extension of the Warrnambool Office of South West Water Authority, May 2003.
3) MWH, 2007, Wannon Water Demand Management Strategy, 50 Year Demand Forecast.
4) GHD, 2007, Wannon Region Water Authority Report for Operations Department – Resource Review, Business Case, January 2007.
5) GHD, 2007b, Report for Proposed Sewerage Scheme for Dutton Way, Wannon Water, Options Assessment, June 2007.
6) GHD, 2007c, Report for Casterton – Coleraine Water Transfer Pipeline and Pumpstation, Wannon Water, Functional Design Report, August 2007.
7) GHD, 2007d, Report for Coleraine Alternative Water Supply, Wannon Water, Options Evaluation, April 2007.
8) GHD, 2007e, Report for Hamilton Water Supply Options, July 2007.
9) GHD, 2007f, Report for Hamilton-Grampians Inter-Connector Pipeline, Project Evaluation, August 2007.
10) GHD, 2007g, Proposed Sewerage Scheme for Dutton Way, Supplementary Options Assessment, December 2007.
11) Earthtech, 2003, Report on Long Term Wastewater Strategy – Warrnambool, December 2003.
12) SKM, 2007, Portland WRP Upgrade, Options Evaluation Report, Final, 30 April 2007.
13) Wannon Water, 2007, Water Plan: 2008 – 2013, 8 October 2007
14) Wannon Water, 2007b, Water Supply Demand Strategy 2007-2055, June 2007.
15) Wannon Water, 2008, Water and Sewerage Network Renewal Plan 2008-2013, Wannon Region Water Authority, 1 February 2008.
16) Architektonic, 2006, Response to Parish Lakes Submission, Wannon Region Water Authority, Final Report, April 2006.
17) Westin Engineering, 2002, SCADA Upgrade Master Plan and Options Report, Issue 02, April 2002.
18) Westin Engineering, 2002b, SCADA Upgrade Project Evaluation Report, May 2002.

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.

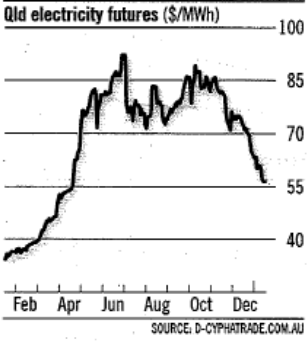
Origin and AGL are both working to increase the proportion of their electricity sales that they generate themselves. Origin is spending $1.3 billion to build a 630 megawatt power station near Dalby, fuelled by gas from its coal-seam methane fields.

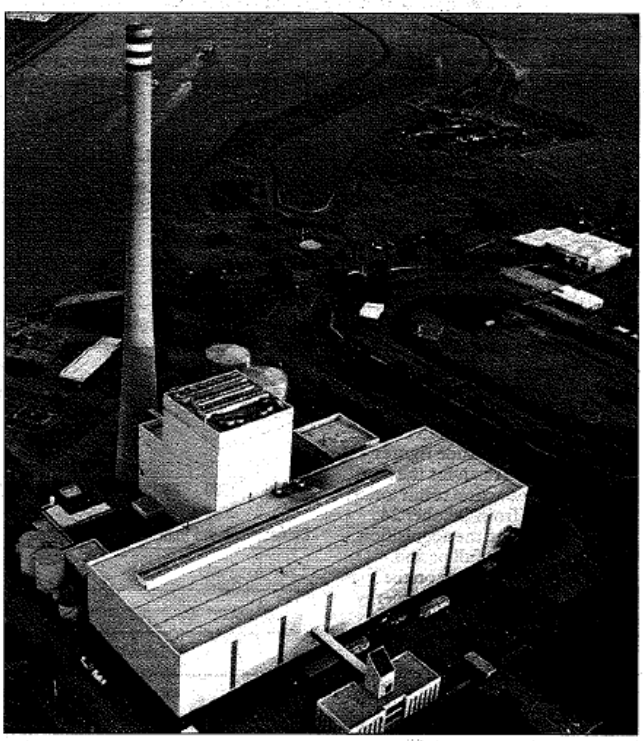
And AGL has locked in electricity supply from a power plant that Queensland Gas is building on its coal-seam methane fields.

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