WA Economic Regulation Authority

2009-2012 PRICE REVIEW

ELECTRICITY DISTRIBUTION and TRANSMISSION SERVICES

in the

WESTERN POWER

SOUTH WESTERN INTERCONNECTED SYSTEM

Response to the Application

by

Western Australia Major Energy Users

December 2008

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The content and conclusions reached are the work of the WAMEU and its consultants.

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Executive Summary

This submission has been prepared by a collaboration of several large energy users in Western Australia whose businesses are significantly affected by electricity cost, reliability, quality and security. The Western Australia Major Energy Users (WAMEU) welcomes the opportunity to provide comments on the application by Western Power (WP) to the Economic Regulation Authority's 2009-2012 price review of WP services.

WAMEU contends that the WP application is an unjustifiable ambit claim, which is flawed in both its approach and calculation. Perhaps, largely as a consequence of its timing, WAMEU contends that the WP application has had no regard for the very significantly changed economic circumstances being experienced (both current and in the near future) by WP's customers, stemming from the fallout of the global financial crisis.

WAMEU strongly urges the ERA to undertake its own comparative analysis of all of Western Power's claims, and ultimately, to reject WP's proposed network tariffs for this review period.

An overview of this submission

WP has proposed what can only be described as totally unjustifiable increases in network charges, 43% in the first year, and over 100% over the three year period covered. These increases are primarily a product of:-

- An increase of more than 50% in operational expenditure
- An increase of more than 75% in capital expenditure
- An increase in the weighted cost of capital of some 220 basis points
- A change in the management of capital contributions

WAMEU contends that:

- Operational expenditure should remain at current levels of $75M pa for transmission and $260m pa for distribution;

- Western Power's claims for capital expenditure are between 80% and 100% too high, as the forecasts for demand and consumption do not support such large increases;

- The increase in the weighted cost of capital (WACC) is not justified for this proponent, nor by the newly emerging circumstances of the world and state economies, and WAMEU proposes that the following parameters be adopted by the ERA:

Parameter	Value range	WAMEU recommended set point
Risk free rate	Based on the nominal 10 year CGS	
Inflation	Using RBA current data, then trend to 2-3% target range	
Debt premium	Based on S&P A+	
Gearing	Within the range 65-75%	70%
Equity premium	Within the range 5-6%	5.5%
Equity beta	Within the range 0.6-0.70	0.70
Gamma	Within the range 0.72-1.0	0.85
Equity raising	No allowance except where equity is actually raised externally	
Debt raising	Mid range estimate gross underwriting fees only	

- Western Power should be required to exclude from the regulatory asset base any historical capital contributions made by other parties; and

- The ERA should investigate the option of an amendment to the capital contributions policy to allow the increase in revenue from the shared network because of new connections to be offset against the capital contributions required from those new connections.

The only offsets offered by Western Power to the increases in expenditures proposed are very modest programs to increase efficiency and service performance standards. While these programs are welcome WAMEU contends that:

- The ERA should require the "dead band" around each target in the service standard incentive scheme to be reduced by 50% and the penalty/bonus limit increased by 100%; and

- The ERA should require that the performance standards be expanded to specifically include the worst performing feeders.

Overall, the proposed new WP average tariffs when rated on a $/MWh basis, would result in the electricity transportation tariffs for combined network services being far in excess of tariffs in other Australian jurisdictions. The resultant average tariff by the end of the regulatory period will reach about $100/MWh, which is well above the traditional benchmark where power prices and deep network charges are approximately equivalent. Both WP transmission and distribution networks compare unfavourably on a cost basis with similar network businesses in Australian jurisdictions.

WAMEU disagrees that because WP is an integrated business incorporating electricity transmission and distribution transport its performance cannot be accurately assessed and argues that because of this integration (with the benefit of shared administration and economies of scale) it should be more efficient than segregated businesses against which it is compared.

WAMEU does not agree that because of the density and geographical coverage SWIN is unique and cannot be compared with other jurisdictions. We would point out that the networks in South Australia and north Queensland probably have a more challenging environment to operate in than that of the SWIN.

When compared with the very large proposed increases in revenue sought by WP, and having regard to the significantly changed economic environment, the WAMEU submission proposes more balanced recommendations that provide for a reliable, sustainable, quality electricity network with affordable and economically efficient access costs.

1. Introduction to the WAMEU

The Western Australia Major Energy Users (WAMEU) represents a collaboration of large energy consumers operating in the Western Australia Electricity Market (WEM). The WAMEU comprises major energy using companies, including Cockburn Cement, Tiwest, Simcoa, Doral, Boral, Burswood Entertainment Complex, Laminex Group, Perron Group and Cristal Global.

Analysis of the electricity usage by the members of WAMEU shows that in aggregate they consume a significant proportion of the electricity generated in WA. As such, they are highly dependent on the transport networks to deliver efficiently the electricity so essential to their operations. The members are also heavily dependent on local suppliers of eqipment and services. and therefore have an obligation to represent the views of these local suppliers. With this in mind, the WAMEU requests that the ERA take the views expressed herein as also representing those of smaller electricity using facilities that may not have the opportunity or resources to make a submission.

The companies represented by the WAMEU (and their suppliers) have identified that they have an interest in the **cost** of the energy networks services as this comprises a large cost element in their electricity and gas bills.

Electricity is an essential source of energy required by each member company in order to maintain operations. A failure in the supply of electricity effectively will cause every business affected to cease production, and WAMEU members' experiences are no different, and thus the **reliable supply** of electricity is an essential element of each member's business operations.

With the introduction of highly sensitive equipment required to maintain operations at the highest level of productivity, the **quality** of electricity supplies has become increasingly important with the focus on the performance of the distribution business, because it controls the quality of electricity delivered. Variation of electricity voltage (especially voltage sags, momentary interruptions, and transients) by even small amounts now has the ability to shut down critical elements of many production

processes and operations. Thus member companies have become increasingly more dependent on the quality of electricity services supplied.

Each of the businesses represented by WAMEU has invested considerable capital in establishing their operations and in order that they can recover the capital costs invested, long-term **sustainability** of energy supplies is required. If sustainable supplies of electricity are not available into the future, these investments will have little value.

Accordingly, WAMEU members are keen to address the issues that impact on the **cost, reliability, quality** and the long term **sustainability** of their electricity supplies.

The members of WAMEU acknowledge that energy transport plays a pivotal role in the electricity market. The transport networks, both developed and proposed, allow consumers to identify the optimum location for investment in its facilities, and also for generators to locate where they can provide the **sustainable, reliable and high quality supplies at lowest cost** for consumers. WAMEU members recognise that the cost of providing the transport systems are a significant element of the total cost of delivered electricity, and proper consideration must be given to fair and equitable recognition of all these elements.

2. An overview of the WP application

The application from Western Power (WP) to increase network charges that is now before the ERA for its consideration contains many unsupportable features:-

- A change to the current practices for managing customer capital contributions
- An ability for WP to arbitrarily and unilaterally reduce the contracted demand at a connection point
- A change to limit so called "out of date" revenue adjustments
- A step increase of 43% in revenue
- Real revenue increases thereafter of 30-40% per year for the following two years

The factors behind the very substantial increase in tariffs are related to:-

- An increase in opex of more than 50%
- An increase in capex of more than 75%
- An increase in WACC by some 220 basis points
- The change in management of capital contributions.

The substantial increase in capex costs are due to a massive planned investment program, but WP advised that although increases in demand (as measured by the 10% probability of exceedence PoE which is a high range value) over the past 2 years averaged ~9% pa, it is now forecasting a significant fall in peak demand increases to less than 4% pa.

It is noteworthy that independent forecasts of peak demand and consumption growth[1] show only a 3.3% pa growth for peak demand and a lower 2.2% pa growth in consumption, after a much larger growth in both measures in the current access period (AA1). This raises the question as to whether WP is justified in forecasting such a large step change in opex and capex bearing in mind the much flatter forecast growth in the outlook period. It should be also noted that these forecasts were made before the current economic downturn and therefore are likely to be on the more optimistic side.

To offset the impact of the massive cost increases, WP has advised that it will institute:-

[1] WA IMO 2007 Statement of Opportunities Report July 2007

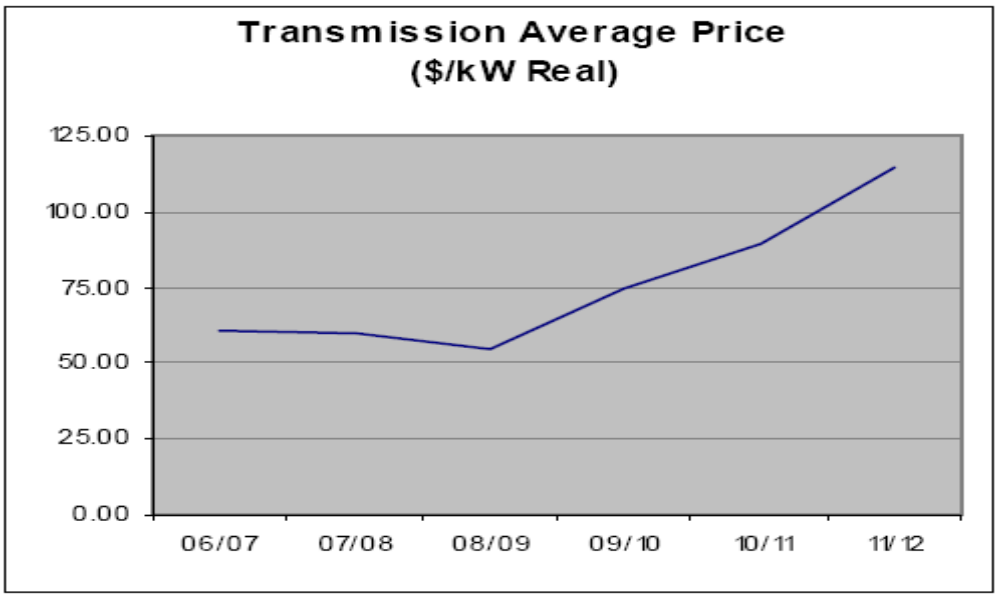
- A program to incentivise it to increase efficiency by raising performance standards,
- A D factor scheme which will encourage WP to identify demand options which might reduce capex requirements, and
- A sharing scheme for reducing capex and opex (ie if it uses less capex or opex, then it will share the resultant cost savings with consumers).

At best, these are rather modest programs and cannot justify the massive increases in capex and opex which WP is seeking in its application.

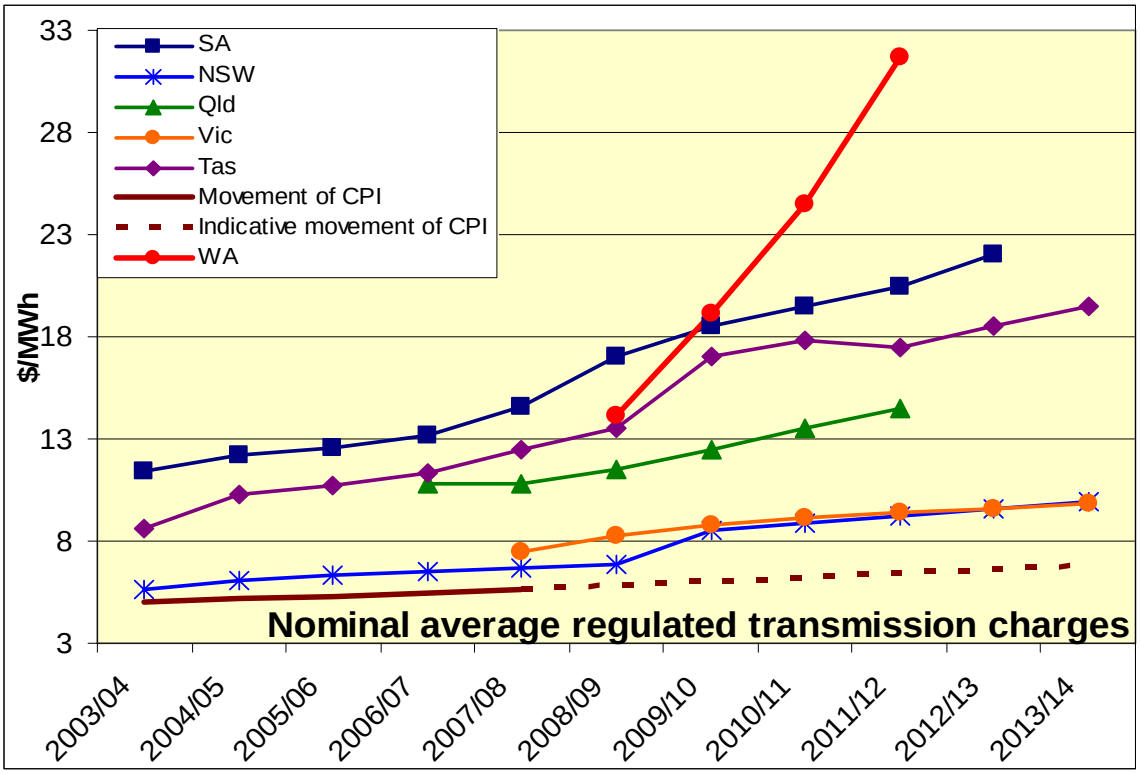
WP has proposed to operate under a revenue cap for both transmission and distribution services. The benefit of this for WP is that it is insulated from any impact of lessening demand that might come from the expected reduction in activity stemming from the world economic downturn, thereby transferring the risk for the cost of the network to consumers. Moreover, although a revenue cap does provide consumers with a known amount of funding for each year, sales volume risks are nevertheless transferred to consumers.

WP is also seeking a significant change to its notional tariffs, thereby transferring as follows:

Transmission charges will increase in average cost by a massive (and unjustifiable) 120% from current levels over the next three years, as shown in the following graph provided by WP in its application:

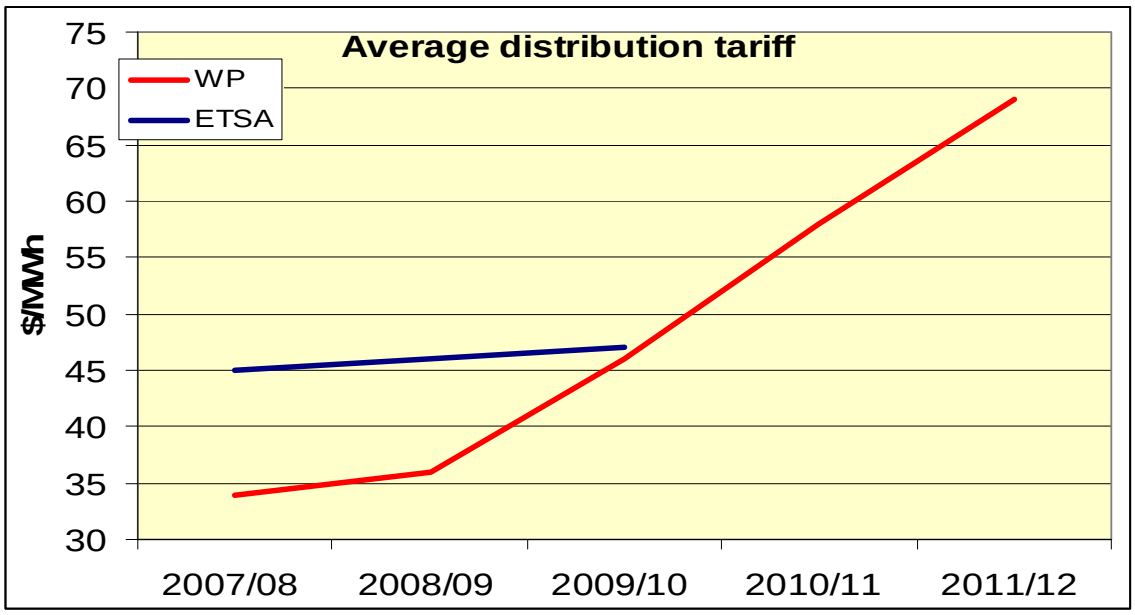


When examined on a comparative basis however,, the WP proposal for increased transmission charges lacks credibility, as the following graph shows, using data from a number of other regulatory decisions and recent applications in other Australian jurisdictions:



Source: AER determinations, RBA statistics, current applications

In the case of **distribution**, the comparison highlights that the increases sought by WP will take its distribution tariffs to a level of 50% more than its comparator distribution businesses. This cannot be classed as reasonable.



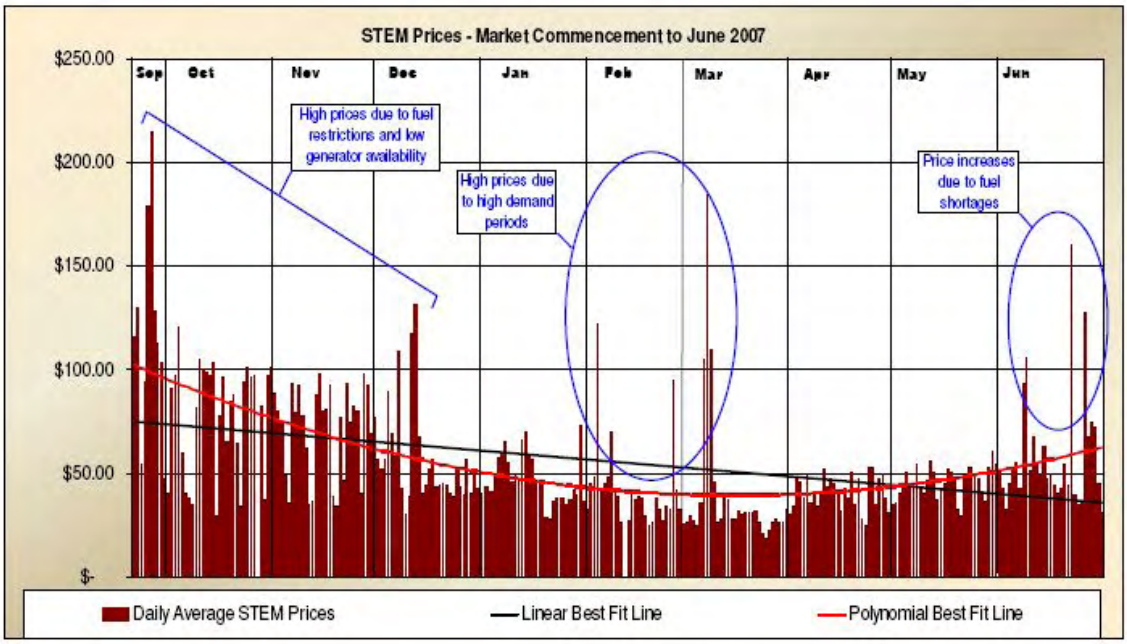
Source: WP AAI and ESCoSA FD on ETSA

When the increases sought for transmission and distribution are combined the values for year 09/10 might be seen to be not too unreasonable, but the levels of charges for the subsequent years are totally excessive.

For example, the combined network charges for 11/12 would be some $100/MWh. This is higher by some 50-100% than the average cost of generation as can be seen for the average daily generation costs for the short term trading market (STEM) as published by IMO[2]

[2] IMO report, Wholesale Electricity Market *Electricity Trading 2006/07* July 2007

Figure 5.



Traditionally, the cost of power delivered deep within the distribution network generally equates between network charges and generation. The WP proposal has moved well beyond this so that the majority of costs are now due to network charges!

3. Regulatory conservatism

When all assessments of the building block elements of pricing require some degree of estimation, there can be an inclination for the regulator to bias all such estimates towards a conservative value. In principle, WAMEU agrees that there should be a conservative bias as the loss of the network will cause greater harm to consumers than shorter term cost reductions. However, when a regulator takes a conservative view of every element that goes into the building block, then there is the risk that the final aggregated level of conservatism is grossly overstated.

3.1 Conservatism in WACC

For example, the development of the WACC contains a number of estimated inputs – market risk premium, equity beta, gearing and gamma. If a 10% bias is added to each of the variable inputs, then the impact on the final level of pre tax WACC has a conservatism approaching 10% as shown in the following table:

Parameters	% debt	DRP	βe	MRP	% equity	RFR	Nominal WACC
AER	60%	2%	1	6%	40%	6%	9.6%
AER + 10%	54%	2.2%	1.1	6.6%	46%	6%	10.5%
AER - 10%	66%	1.8%	0.9	5.5%	34%	6%	8.8%
WAMEU	70%	1.5%	0.7	5.5%	30%	6%	8.2%

In the above table, the AER parameters are those used as required in Chapter 6A of the National Electricity Rules. The values used for WAMEU are those developed in section 6.

What this table shows is that allowing a level of conservatism in every element of the WACC development results in large movements in the pre tax WACC premium above the risk free rate – in fact a 10% premium in each of the WACC parameters increases the WACC premium above the risk free rate by some 25%! The compounding effect of "conservatism" in the WACC parameters provides a massive proportional increase in the WACC premium above the risk free rate.

If the impact of "gamma" (the value to shareholders' share of tax imputation credits) is further added at "a conservative" level currently assessed as 0.5[3], then the conservatism in the WACC is further enhanced.

[3] There are economics experts that consider gamma is higher than 0.8, and should be set at 1.0!

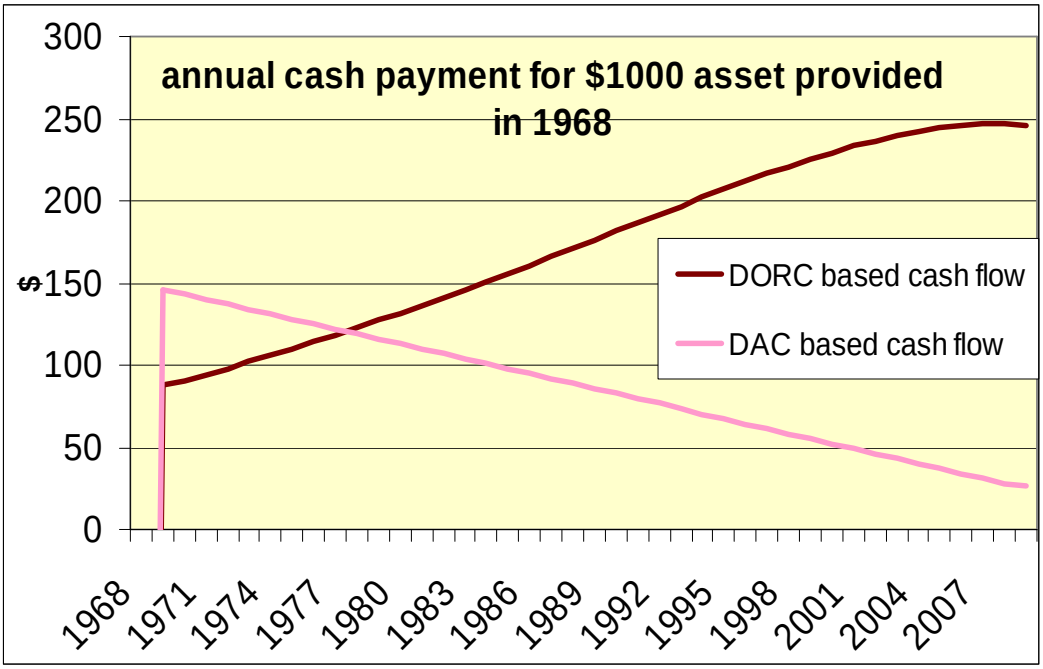
3.2 Conservatism in RAB

The valuation methodology used for assets in the regulatory asset base uses the depreciated optimised replacement value (DORC) approach, which is also conservative, again adding to overall conservatism.

This conservatism resulting from the asset valuation methodology and regulatory approach using DORC can be described in the following way.

In theory an asset provided (say) in 1968 and depreciated over 40 years and the cash flows calculated as "DORC value*real WACC" and "DAC value*nominal WACC" will provide an IRR of about the same value (12%), yet consumers pay more under the DORC approach as the total amount paid under a DAC approach is some $3500 over the 40 years but for the DORC approach the amount of cash is over $7000[4].

The following graph shows the annual payments under each approach



The reason for the same IRR is that the high returns in the early years under the DAC approach provides more cash than the DORC approach until after about 10 years.

[4] The values are based on the average inflation over the past 40 year of 5.88% pa, a real WACC of 6.24% and a nominal WACC of 12.12%

The average age of regulated assets used for electricity transport in the NEM is in the range of 20-30 years because the assets were inherited from the government businesses. The assumption made under the DORC approach is that the assets under government ownership were treated on a DORC basis, but probably were treated more like that used under a DAC approach. That means in the early years consumers probably paid the higher DAC approach costs and now under the new regulatory approach are paying the higher DORC costs. Until all the government assets are fully depreciated consumers will continue to pay a premium for using those assets inherited from the government.

Thus the DORC approach adds to the actual cash requirement in the middle years, enhancing the return the regulated business achieves now, yet did not incur the lower returns in the early years of the asset life.

New assets (ie capex) will pay a lower amount in the early years and a higher amount in the later years but at least there will be consistency in the treatment over the entire life span.

At the same time, actual capex incurred is included in the RAB regardless of its effectiveness or prudency, and this is also a conservative approach.

3.3 Conservatism in capex forecasts

In the development of its capex, WP has included in forward costings, for the inclusion of an estimation error for capital works. In AAI appendix 1 WP provides the following observation

> **3.12 Estimating risk factors**
> Western Power's cost estimating process involves feedback on actual costs and detailed project reviews. Through these processes, it is evident that cost increases and decreases occur that cannot be foreseen at the time of cost estimation. Factors such as small changes in project scope occur, for instance, as a result of a more extensive planning approval processes.
>
> To identify an appropriate allowance in forecast expenditures for small errors in cost estimating, Western Power engaged consultants Evans & Peck to develop a strategy dealing with the asymmetric quantitative risks associated with estimation and delivery of transmission and distribution Capex over the 2009/10 to 2011/12 regulatory period. Based on Monte Carlo analysis, the consultant determined risk factors for IAM and non-IAM projects. Application of the risk factor to IAM projects gives the

> highest probability of appropriate cash flows and reduces the likelihood of the need for subsequent price adjustments.
>
> On the basis of this analysis, Evans & Peck recommends that Western Power include a "global" risk allowance of 3.5% in their expenditure forecasts. Due to the non deterministic nature of risk expenditure, Western Power has incorporated the consultant's recommendation into its forecasts by adding a separate line item to each relevant high level regulatory category for its transmission and distribution Capex forecasts."

WAMEU contends that inclusion of such a risk mitigation factor is inappropriate for a capex program based on a probabilistic approach to capex assessment. WP has sought a global capex allowance, and retains considerable flexibility as to how the capital is to be spent. As there is already considerable doubt as to which specific projects will be built and when (a key feature of the probabilistic approach) then to arbitrarily add another 3.5% to the amount estimated is adding in unnecessary conservatism.

3.4 Conclusion on conservatism

When all this conservatism is added, but never quantified, the overall conservatism allowed by regulatory decisions can be extraordinarily large.

It was acknowledged by the "experts" at the recent AER forum of experts discussing elements of the WACC parameters, that it is essential that such conservatisms are not made cumulative. The experts all concluded that every element value estimated should be set at the best estimate value, without conservatism and then on completion of the calculation, a specifically determined bias value should be incorporated into the final decision.

In this way, there is a better and more rational estimate provided for the "conservatism" required on the regulated business's revenue rather than having an excessive conservatism built into the outturn, but which is never quantified.

3.5 Risks for WP

WP retained Evans and Peck (E & P) to advise on its asymmetric risk profile. E&P has provided similar advice to all regulated transmission businesses in other Australian jurisdictions in the past few years.

E&P counsels WP to take note of the AER approach in previous decisions where NSPs have sought some risk allowances within the project environment and to point out (presumably in favour of WP) that the risks WP faces vis-à-vis "business as usual" which is embedded in the WACC are likely to be greater than businesses in the competitive sector face.

WAMEU members all operate in a competitive environment and would like to receive the WACC enjoyed by regulated electricity business combined with the certainty of revenue. As well, all WAMEU members would like to have the revenue certainty that NSPs have for all of their investments!

What regulators frequently overlook is that regulated businesses have consistently out performed in share price compared to the market as a whole, and provide larger dividends to their shareholders than does the market as a whole. When this higher reward, lower risk and certainty of revenue are all accounted for, it is surprising that E&P would provide a view that regulated NSPs need to have added into the regulatory decision, an additional allowance for risk.

WAMEU therefore considers that the ERA should not add in any allowance for these supposed risks faced by regulated NSPs as they are no greater (and significantly less) than those faced by the market as a whole.

4. Forecasts

4.1 An overview on forecasts

Reserve Bank Deputy Governor Ric Battelino observes[5]:-

> "We are going through some uncertain financial times at present, which is leading some to question whether the period of prosperity that has been running for almost two decades has come to an end.
>
> While nobody can predict accurately all that lies ahead, it is important not to become too pessimistic because, fundamentally, household finances and the economy more generally remain in good shape. The main problem that had built up – inflation – is manageable and is being dealt with.
>
> **The next couple of years will be noticeably more subdued than the past five.** We should not be surprised by this as the income and wealth generated over the past five years were simply extraordinary.
>
> **By definition, the economy must grow at a below-average pace for some of the time.** These periods provide the economy with the breathing space to sustain the expansion. There is no reason to assume that the next year or two will not do the same." (emphasis added)

WA Treasurer Troy Buswell observes[6]:-

> "Australia, and Western Australia in particular, is well positioned to cope with the fall-out from the current global financial upheaval given that our banking system and its regulation is extremely robust by world standards.
>
> **However, concerns that a world recession could occur reinforces the need for the WA Government to get its forward finances in order.**
>
> The immediate impact of the current market volatility on WA's financial position is a mixture of good and bad. Some of the effects are counter-balancing and can serve to improve the bottom line for State revenues in the short term.

[5] Ric Battellino Deputy Governor RBA, 7th ITSA Bankruptcy Congress Sydney - 30 October 2008

[6] Troy Buswell Treasurer; Minister for Commerce Wed 01 October, 2008

> Since the Pre-election Financial Projections Statement (PFPS) was published, spot prices for a range of commodities, including oil, have fallen on the back of world economic fears and the risk of a slowing in demand for commodities.
>
> ….In the short term, contractual price arrangements for the State's key iron ore and LNG exports to Asia will also act as a buffer. In terms of direct financial implications for WA, the concern lies more in the medium-term impact of global economic conditions on iron ore price negotiations and the possible flow through of lower oil prices to LNG.
>
> **Weaker realised commodity prices can also be expected to flow through to the broader WA (and national) economies, potentially delaying a recovery in the property market and associated tax revenues, which have been tracking below those expected at the time of the PFPS. Consumer confidence and associated GST revenues may also be impacted.**" (emphasis added)

It therefore makes it essential that forecasts on which WP bases its revenue for the next regulatory cycle are realistic forecasts rather than those projected during the recent boom times. There is no doubt that economic growth in WA will be much less than has been assumed by WP in its application. The ERA has a responsibility to use the most up to date information available on which to base projections.

If ERA fails to do this then the repercussions for many businesses and households could be catastrophic. Providing revenues for WP which are effectively overstated for the actual financial conditions, assumes needs which are unlikely to be realised, thereby burdening WA consumers with costs which they will find extraordinarily difficult to manage.

In this regard, it must be clearly stated that electricity supplies are an essential service so that non-payment is not an option. Imposing what could be quite unnecessary costs on businesses at this time, when they have a dwindling market for their services and products, has the real potential to cause many to cease operations.

As WP revenues are effectively guaranteed, any loss of revenue from current consumers will have to be carried by those fewer consumers remaining, and a revenue cap effectively will result in the WP costs being carried by these fewer consumers. This will cause higher tariffs per unit and further reductions in usage of the network.

4.2 Inflation

The forecasts for inflation are critical, especially under the ERA stated approach of using "real cost accounting"[7]. The challenge for the ERA is to identify the forecast of inflation from which it can generate a real risk free rate to use in the Capital Asset Price Method (CAPM) approach to developing the WACC.

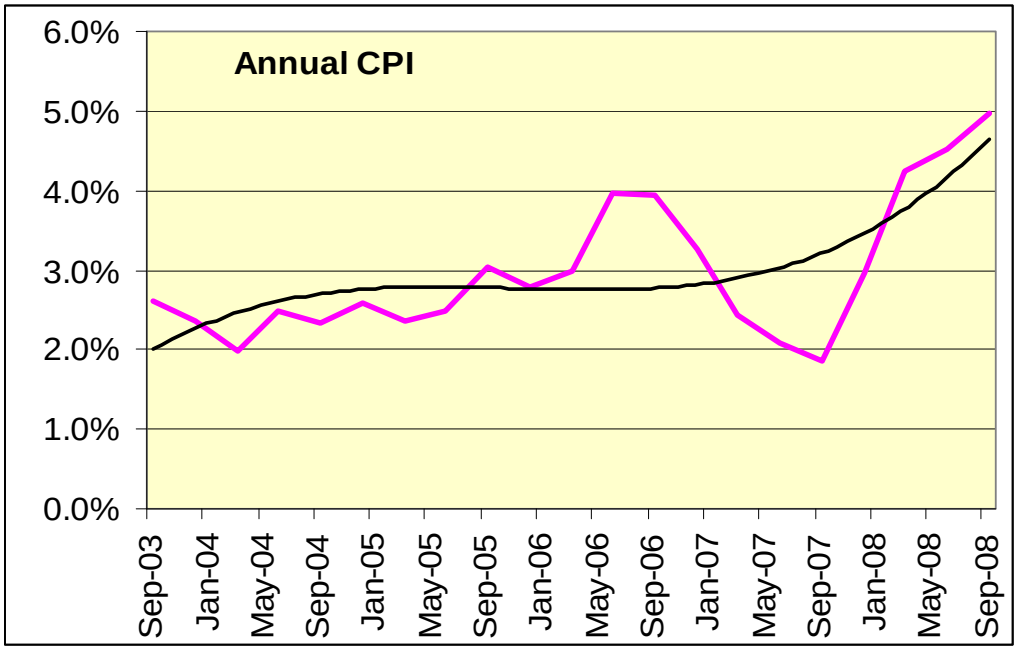
Until recent times, the forecast of inflation was not a major issue as inflation was low and there were inflation indexed bonds available from which to derive the market view of future inflation. In the last 12-18 months it is now apparent that the decision to no longer issue inflation indexed bonds and the resultant thin trade of those remaining in the market, has made this method of assessing future inflation unreliable. This has been separately confirmed by the Commonwealth Treasury and the Reserve Bank.

There is a need to assess inflation for the purposes of forecasting likely revenue at the time of the decision, but errors in this are adjusted at each annual review of revenue. If an incorrect inflation value is included in the WACC development, the error remains locked in and cannot be adjusted if the inflation estimate is later found to be in error, as is the most likely case. This then raises the concept for adjusting the WACC annually to reflect actual inflation movements.

In its application on page 21, WP observes, in relation to its capex incentive program, that it expects inflation to be 3%. In the attachment prepared by KPMG, it considers that inflation of 2.73% should be used. The lower the inflation forecast, the higher the "real" WACC becomes. Thus under the ERA approach to revenue setting, WP is incentivised to use as low an inflation value as possible.

In fact, CPI has trended higher than the KPMG value for a significant period, but well above for the last 2-3 years as the following graph shows.

[7] Page 8 ERA Determination of the preferred methodology for calculating the weighted average cost of capital for covered electricity networks, 25 February 2005



Source: Reserve Bank

As the current level of inflation is close to 5% it would be a bold call to expect the forecast inflation to sit below 3% on average for the next three years.

Reserve Bank Governor Glenn Stevens observed[8]:-

> "As you know, since 1993 the Bank has been framing its monetary policy around a medium-term target for inflation of 2–3 per cent, on average, 'over the cycle'. The Reserve Bank remains committed to achieving that target. …
>
> This framework has worked well. One of the reasons it has worked well is that it has two essential ingredients. The first is the commitment to the mean inflation rate being at the target. That has been achieved, with medium-term CPI inflation rates averaging close to 2½ per cent. The second ingredient is a sensible approach to variance of inflation around that mean. The framework was designed to have the necessary flexibility to cope with the business cycle, shocks that may occur, the inevitable errors in forecasting and lags in the effects of policy decisions. The framework does not assume that inflation can be fine-tuned over short periods, nor does it require us to attempt rapidly to correct deviations from

[8] RBA Governor Glenn Stevens: Address to The Anika Foundation Luncheon Sydney - 16 July 2008

> the 2–3 per cent range, which have occurred several times over the period since 1993.
>
> This flexibility was envisaged from the beginning in our approach to inflation targeting. The Reserve Bank quite deliberately eschewed the narrowly defined targets with 'electric fences' that were initially favoured in some other countries and that were at one stage proposed here. We have made use of that flexibility repeatedly, and are doing so again now.
>
> The inflation outlook I have just sketched out would be a pretty long period of divergence from the target. It is important to recall, though, that we have experienced reasonably lengthy deviations before. Annual CPI inflation was below 2 per cent for 10 quarters between the middle of 1997 and the end of 1999. **If the May 2008 forecasts turn out to be right, then the current episode would entail nine quarters with year-ended inflation above 3 per cent.** If we can achieve something like that outcome, that would still be consistent in every essential respect with the experience under inflation targeting since it began 15 years or so ago." (emphasis added)

There is no doubt that the inflation outlook has worsened in the past 3-4 months, although there are signs that with a declining growth, the pressure on inflation is likely to ease. That inflation for the September quarter exceeded the most pessimistic forecasts raises a significant concern that inflation is likely to be higher than the target range well into 2009.

To avoid the risk of an overinflated real WACC, the WAMEU recommends that ERA move to using a WACC which is adjusted annually for actual inflation.

Such an approach would allow ERA to continue its use of real cost accounting. The alternative is that the ERA move away from real cost accounting to historical cost accounting.

4.3 Demand

It has been noted that the IMO has provided its 2008 Statement of Opportunities (SoO) to some but has not published it on its website.

In its application WP uses the forecasts from the 2007 SoO although in some places it seems to use data from the 2008 SoO. The 2008 SoO shows that there was forecast increase in demand and consumption above the levels forecast in the 2007 SoO, but the increases are relatively

modest, and certainly less than the increases incurred over the current access arrangement period.

Because the 2008 SoO is already dated as a result of the major downturn the economy is already seeing as a result of the global financial crisis, this submission uses the 2007 SoO as the basis of its comments, rather than slightly more expansionary 2008 SoO.

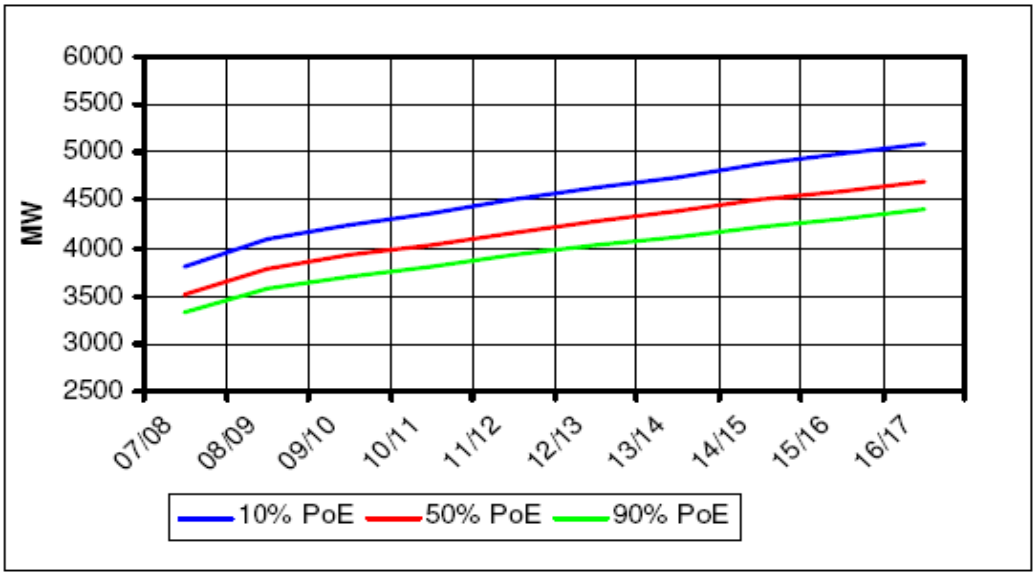
For example, a number of proposed projects forecast by Rio Tinto, Fortescue and BHP Billiton have already been deferred and Alcoa has put Wagerup 3 expansion on hold. The impact of these and other mineral and non-mineral projects not proceeding in the forecast period exemplify the extent of the global downturn in the WA market, and hence require a further downward adjustment in projected growth in electricity demand and consumption. A worst case scenario would be negative growth in both demand and consumption should the domestic economy deteriorate more substantially.

The WA IMO Statement of Opportunities for 2007 gives a view on future electricity demand that suggests growth will be relatively modest for the new regulatory period and provides the following observation:

> "Figure 10 below shows the forecast SWIS maximum demand for the period to 2016/17. This figure shows the maximum demands for the three probability levels (10% POE, 50% POE and 90% POE) provided by NIEIR. These forecasts are based on expected economic growth conditions and include the Boddington Gold Mine as a significant load to be introduced in the 2008/09 Reserve Capacity Year
>
> …. The average annual growth in maximum demand for the 10% POE forecast over the LT PASA Study Horizon is 3.3%. However, for the 10% POE demand increases by 7.5% in 2008/09 and by 3.6% in 2009/10. Stronger growth in 2008/09 reflects the introduction of the Boddington Gold Mine."

The SoO provides the following chart:

Figure 10 Forecast Maximum Demand - Expected Economic Growth



This assessment was made well before the current economic downturn and therefore must be considered to be over stated, with future demand growth likely to be much less than forecast in 2007, and especially less than that forecast in 2008.

Regardless of this, the forecasts still provide an indication (at best) of only a modest annual increase in demand, and apparently lower than that implied by WP in seeking to justify its claims for massive increases in capex and opex.

WP provides a view that the 10% PoE of demand will be 4.4%, 3.6% and 3.4% for each of the three years, giving an average of demand growth of 3.8% pa, significantly above the assessment made by IMO in 2007.

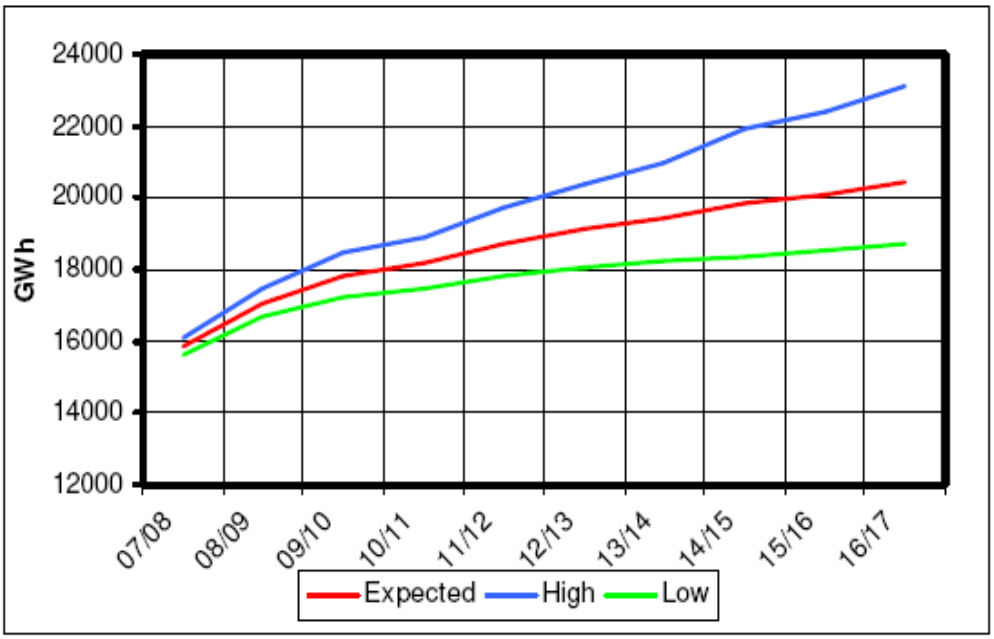
4.4 Consumption

The WA IMO Statement of Opportunities for 2007 goes on to give a view on future electricity consumption that growth will also be relatively modest.

> "…the forecast sent-out energy in the SWIS over the LT PASA Study Horizon to 2016/17 …is expected to grow at approximately 2.2% on average per annum. Under the high growth scenario, 3.5% growth is forecast, while the low growth scenario would see energy consumption increase at approximately 1.4% per annum on average."

The SoO provides the following chart:

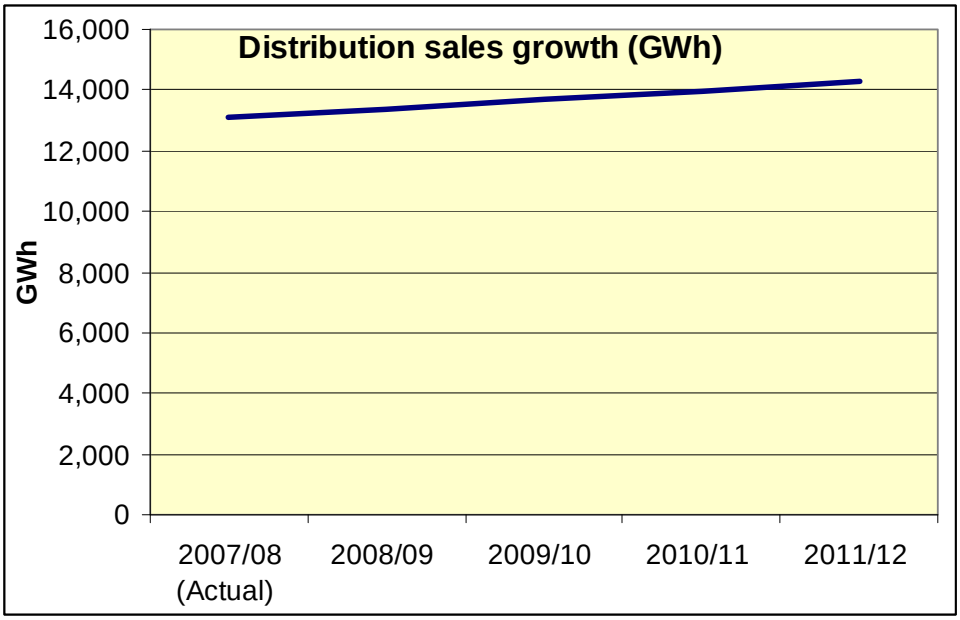
Figure 12 Forecast Sent-Out Energy



As with the demand forecast, this assessment was made well before the current downturn and therefore must be considered to be over stated, with future consumption likely to be much less than forecast in 2007.

Regardless of this, the forecast still provides an indication of only a modest annual increase in consumption, and lower than that implied by WP in its claims for the massive increases in capex and opex.

WP forecasts that consumption is to grow at 2.2% as shown in the following chart the same as the earlier IMO SoO forecast of consumption growth.



Source WP AAI

4.5 Cost escalators

WP advises that a significant element of its increases for capex and opex (both current and future) were, and will be, a result of labour and materials increasing in price at a rate faster than CPI. To support this it provided a report by Access Economics to substantiate its claims. To a degree this replicates claims made by other NSPs being reviewed by the AER.

To a large degree, the report by Access Economic is now very much dated by the events of the past 3-4 months. In that time, the world has moved from a burgeoning economy into recession in a number of export markets for Australia, and near recession across the first world countries, especially the US, Japan and Europe. The impact of this massive change in outlook has two main effects.

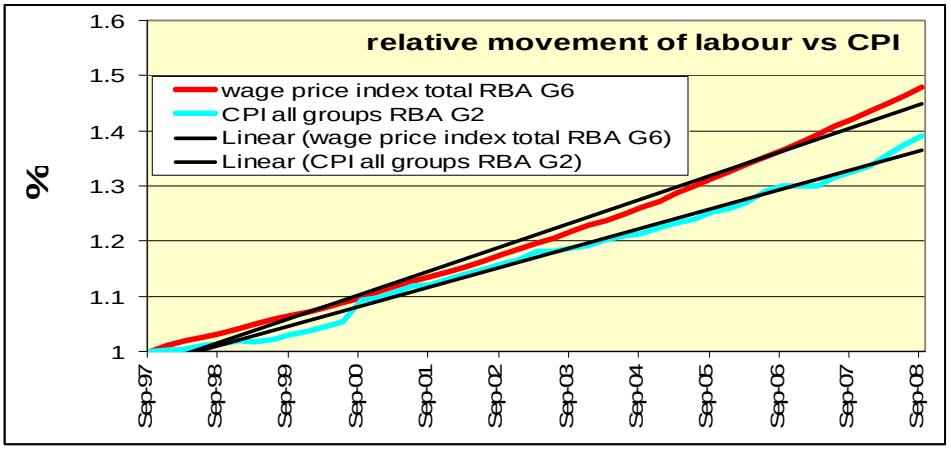
1. The impact on labour in Australia will lose much of its previous heat as the exports from Australia dwindle, especially as it impacts on mining. New mining projects (new and augmentations) are already either being actually deferred or even discontinued or under discussion for deferral for either some years or even indefinitely. The reasons for this are very much related to access to finance – be that debt due to higher costs and the current credit squeeze, or due to a lack of preparedness to raise new equity in such a depressed stock market, as by doing so the new equity

would be considered to be very expensive in light of share prices 12 months ago.

Many businesses are already reducing operating costs in anticipation of a more severe recession than the Australian government and the Reserve Bank are forecasting. As part of the cost reduction program, labour is being shed and there are clear signs that unemployment is likely to rise significantly.

The outcome of this transformation in the Australian (and global) economy will be to reduce pressure on labour costs and return labour costs to the normal trend of labour costs being just 0.5-1% points above CPI as can be seen in the following chart. In the period since the late 1960s average wages have increased at an annual rate of 7.2% whereas CPI has increased at the annual rate of 5.9% (derived from RBA tables G2 and G6), indicating that over the long term wages growth has always consistently outperformed inflation by some 1.2%. Effectively this differential is a result of labour productivity.

In fact, over the past 11 years average wages have outperformed CPI by 0.6%, and this period includes the inflation impact of the GST.



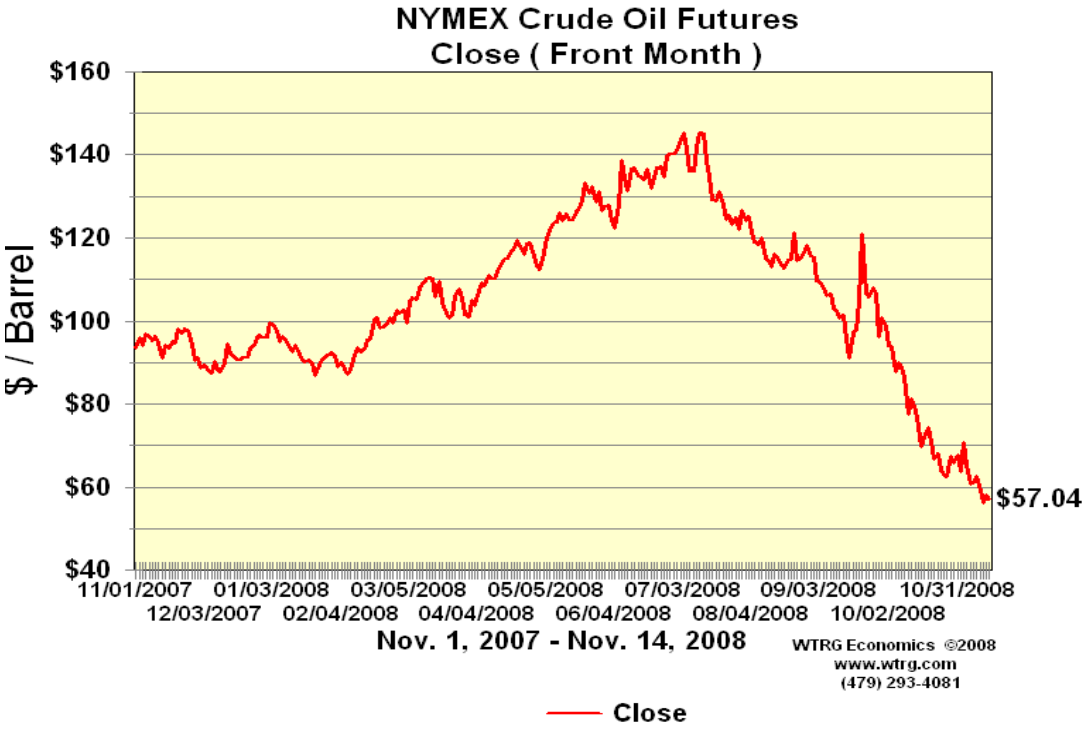
Source: RBA tables G2 and G6

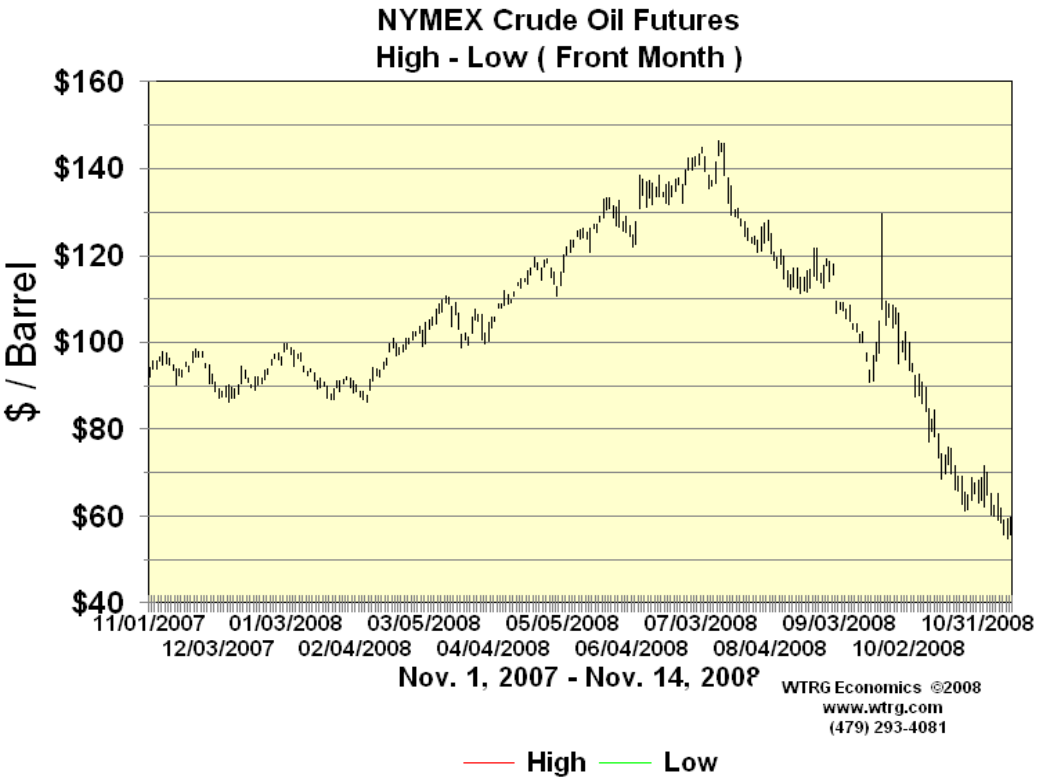
This indicates that in recent times, wages growth has been less than over the long term and so, assuming productivity has remained at similar levels, WP has been benefiting from the lower wages growth relative to inflation. To then require increases in capex and opex as a result of wage pressures cannot be justified.

With the expected downturn in the economy, WP will not be subject to the labour cost premiums envisaged by Access Economics

2. In its assessment of materials prices, Access Economics predicts that base metal prices have peaked and that the fall off in prices will be slow, and that manufactured metals (eg aluminium) prices will fall off even more slowly. This has proven to be fallacious as the following charts show:

Global Oil Pricing





Steel Pricing

LME Steel Billet – Far East

Please select the start date, end date and contract type for the graph you wish to view.
Click on "show" to see the graph results.

START ON:	17 Jul 2008
FINISH ON	17 Nov 2008
CONTRACT TYPE	Cash buyer

SHOW

Copper Pricing

Zinc Pricing

Aluminium Pricing

Access Economics released its report in early April 2008, and therefore used data applying in the months before. As can be seen the report timing coincides with the peak of most markets and since then there has been a massive decline in the price of manufactured materials.

The other key aspect of this decline and the recessive economies is that the order books for manufactured goods (such as switch gear and transformers) will suddenly open up, as orders will be cancelled or deferred until better times. Manufacturers will be desperately seeking new orders to fill the holes in the production schedules, and equipment manufactured but now unsold will be heavily discounted.

Within Australia, construction firms are already indicating declining forward contracts, although most are indicating they have a reasonable level of current works (probably committed prior to the sudden downturn). As new projects disappear, construction contractors will be discounting prices to keep their forward order books adequately covered.

Overall, the material price premiums forecast by Access Economics are obviously out of date and therefore need to be adjusted to reflect current pricing trends and future expectations.

4.6 Conclusions

The ERA needs to discount much of the argument for wages and materials price premiums embedded by WP in their forecasts for opex and capex. The ERA has the responsibility to provide adequate resources and returns to WP based on its assessment of the **future,** not the past. All of the data provided by WP is based on the past and thus significantly biased. There has been a major downward transformation in the prospects for the global economy, as well as the Australian economy. Wage and raw material price pressures are not expected for the foreseeable future.

WP appears to have overstated the expected demand growth in the SWIS, yet has used the growth in demand as part of its rationale for supporting its capex program. The expected downturn in the WA economy will result in lower demand growth for electricity than forecast by both IMO and WP.

WP does not provide a view on expected consumption yet the growth in consumption is expected to be lower than the growth in demand

As WP will operate on a revenue cap, overstatement in demand and consumption are not moderated by the incentive to understate these parameters if a price cap regime applied, so effectively WP has every incentive to overstate rather than realistically state the values. This view needs to be addressed as part of the ERA assessments of capex and opex.

At the same time the forecasts for inflation may well be understated and if low estimates are used by ERA, could well result in an overstatement of the “real WACC”. Because of the large uncertainty in future inflation and there being now no easy ability to develop an independent market based assessment of future inflation, the WAMEU strongly recommends the ERA use a nominal approach to setting the WACC and adjusting the RAB each year for actual inflation.

If the ERA embeds an incorrect value for inflation within the WACC, there is the potential for the ERA to take a conservative view and deliberately under estimate inflation. By doing so, it will increase the conservatism in the revenue stream and effectively cause consumers to pay more for the service than they should.

5. Setting the RAB and depreciation

5.1 Setting the RAB

The RAB has been set on the rolling forward approach. This requires the asset base to be adjusted to include the addition of prudent and efficient capex.

WP has commissioned a report by PB which provides a view that the new augmentation investments meet the Code requirements under NFIT (a) and (b). On this basis PB opines that the following investments comply with the Code.

Table 7-1 New facilities investment during the AA1 period (actual and forecast)

Investment Group	Value [$m]			
	06/07 Actual	07/08 Actual	08/09 Forecast	Total
1 Growth Transmission	249.0	267.5	375.6	892.1
2 Growth Distribution	278.9	271.2	315.4	865.5
3 Non Growth Networks	137.5	179.1	274.4	591.0
4 Corporate	36.1	57.4	61.1	154.6
TOTAL INVESTMENT	**701.4**	**775.2**	**1,026.5**	**2,503.1**

However, looking at actual capex with a proper perspective raises some concerns.

- Growth assets contributed some $1757m or 70% of the capex. Of this amount for growth assets, some $1016m or 60% was for distribution “customer access” (AAI table 43) and transmission “generator and customer driven” (AAI table 25)
- Non-growth and corporate capex provided the balance or 30% of the capex. Corporate capex was predominantly IT driven.
- Asset replacement and renewal, improvement in service and compliance comprised $593m or 24% of all capex or 80% of all non growth and corporate capex

The amended AAI for period 1 (AAI1) forecast demand growth at about 5% although consumption was forecast to grow at a much lower rate. Even at 5% annual growth in demand, the amount of capex of $1757m seems inordinately high, compared to a start RAB of $3275m. That is, the

growth capex alone increased the RAB by over 50% for a 5% pa (at best) increased growth in demand.

There is insufficient information available in the AAI 2 documents to assess why there was such a massive investment in augmentation when the demand growth and consumption would not warrant such investment. Put bluntly, such an amount of growth investment beggars belief! Yet PB does not even question this apparent anomaly.

Without provision of more information WAMEU must question the acceptance of the actual capex to be rolled into the RAB, as included by WP.

WAMEU also questions why “gifted assets” (see AAI table 43) are included as capex under the RAB. If WP was, and is, to be gifted assets, it did and will not pay for them and therefore these should not be permitted to be added to the RAB and thereby granted a return on them.

In principle, WAMEU accepts that actually incurred capex, if it is efficient and prudent, should be added to the RAB. However, WAMEU questions how such a large amount for augmentation assets can be assessed as efficient and prudent. Because of this it is recommended that ERA undertake a separate assessment of the augmentation investment and look to explain why so much capital can be spent for such a small amount of demand growth!

5.2 Depreciation

WAMEU has noted a trend for some network owners to claim that replacement of assets earlier than the economic life makes sense in that if the replacement can be carried out as a part of a consistent program then the capex required will be less due to efficiencies.

Another trend has been for network owners to identify that certain types of assets show a tendency to fail before the expected life, and that therefore there is a logic based on reliability grounds to replace assets before they fail, even if this is before they are economically depreciated.

The WAMEU points out that replacement of assets purely based on their age has the potential to cause assets which are still used and useful and, performing as intended, to be replaced regardless. Within the AAI, WP proposes that it will replace assets at the end of their economic life, but the capex program proposed actually increases the rate of asset replacement.

This desire to replace assets regardless of their technical competence to perform at the end of the depreciated life or earlier, if the regulator can be convinced of the logic of doing so, is a direct result of the building block approach to regulatory revenue setting.

If an asset with a short expected economic life (or zero if fully depreciated) can be replaced with a new asset of current value, then the network owner is rewarded by gaining a return on an asset doing the same task as an asset which might still provide the service, but does not provide a return.

If the return granted by the regulator is higher than the network owner can achieve by investing in an alternative way, then there is an active incentive to replace aged assets at, or before, the economic age is reached. Alternatively, if the return a regulator grants is equal to, or lower than, the return that can be achieved by investment in an alternative way, then there is a disincentive on investing capital, causing the asset owner to retain aged assets beyond the economic life, and for the full technical life of the asset.

The share price premium of the Utilities index over the market average shows that investment in Utilities will provide a better return compared to investing in the market average. This is shown in the chart in attachment 1 and in the following table.

Data sourced from Commonwealth Securities Web site							
		Sector div yield					
		27/ 2/ 06	23/ 8/ 06	30/ 1/ 07	18/ 6/ 07	16/ 1/ 08	4/ 9/ 08
All ords		**4.3**	**4.3**	**3**	**3.4**	**4.2**	**5.8**
Utilities		**5.2**	**5**	**4.1**	**5.8**	**8.3**	**8.5**

These clearly show that Utilities are significantly outperforming the market average in terms of dividend yields, and this is a direct result of regulators providing utilities (which are most commonly regulated) with a return that provides an incentive to invest, resulting in an incentive for network owners to replace assets regardless of their condition if the regulator can be convinced there is a reason to do so.

The WAMEU is concerned that WP will embark on the same approach as other NSPs and replace assets before the end of their technical life. WAMEU members advise that in a competitive environment assets are

kept operating well beyond the depreciated life if at all possible, as by doing so the businesses can reduce the effective LRMC for their assets. As a standard rule, in a competitive environment assets are only replaced when the IRR assessed for replacing them exceeds ~25%.

Affiliates of WAMEU have consistently raised with regulators the issue of unnecessary replacement of assets.

Network owners highlight that ever increasing opex is required to maintain "ageing" assets and massive amounts of capex have been approved (and spent) supposedly in reducing the average age of assets. So far consumers have noted that network owners claim, and regulators grant, increased expenditure based on the recurring theme that more is needed. At the same time the market value of the businesses owning the networks increase for providing the same service.

As the ERA is expected to ensure that assets are not replaced if they still perform the required service reliably, then it must develop a method of ensuring that used and useful assets are not replaced just because they are fully depreciated.

6. Weighted Average Cost of Capital (WACC)

All consumers (large and small) view that their long term interests are advanced by ensuring continuous access to the affordable, reliable and safe supply of energy, in recognition that energy is an essential service to the community. Given the increasing pressure on household and industry budgets and upward pressure on energy prices (due to a range of new imposts), the regulator should focus on ensuring that the WACC is set at a level that delivers prices that are efficient and do not allow for over-recovery.

There has been a general acceptance in the past by various regulators that, if there should be an error in any assessment, then it should err on the side of regulated businesses (ie take a conservative view), as a failure of a business will have a worse impact on consumers than by requiring them to pay a small premium by way of awarding a higher WACC. In principle, this approach can be accepted but it becomes controversial when it is noted that there appears to be evidence that the regulated businesses are already recovering a significant premium when compared to the returns of entities operating in the competitive energy markets (eg retailers and generators) and in the wider market environment[9].

Thus the ERA's analysis needs to be more than purely a mechanistic exercise in assessing each element in isolation. It needs to take a holistic approach. To assess each of the parameters in isolation has the potential (and risk) of building into the outworkings of the WACC multiple conservative factors.

Unless such a holistic approach is taken, then the built-in conservatism is increased geometrically, resulting in an overall conservative position which is far beyond the intent of the conservative position originally intended. When the conservatism of the inputs is applied to the inherent conservatism implicit in the overall structure of the Chapter 6 and 6A of the National Electricity Rules (NER) and related guidelines (both of which were subsequently determined by the AEMC and AER respectively), then the overall degree of conservatism (and hence the rewards for the regulated firms) becomes excessive and no longer typical of the overall risk the sector is exposed to. This issue is expanded on in section 2.5.

[9] See attachments 1 & 2 – premium of utilities over ASX 200 and longitudinal comparative data on ASX indexes. Together these show that the share price premium (attachment 1) and the share dividend (attachment 2) are both higher than the average, it supports a view that the Utilities sector delivers a market risk premium well above the market average.

Consumers (i.e. business, industry, and residential consumers) have reviewed the NER and the changes made to them. They have also seen first hand that the electricity transport businesses are very financially secure in that they have (especially after the changes to the NER Chapters 6 and 6A) virtually no competition risk and very low investment risk. Combining this with a guaranteed high-powered income stream, makes these businesses reflect all of the advantages of legislated monopolies. Consumers consider that these advantages should be reflected in the returns the firms make to their shareholders.

Consumers expect that Rule makers and regulators will manage the regulatory bargain with equity and fairness. Indeed, the NEL objective requires the interests of consumers to be considered. But the reality has been that the AEMC (and then the MCE) allowed regulated firms a return which is not reflective of the risks inherent with the service being provided.

In this review, the WAMEU expects that the ERA will note the anomalies extant in the NEM Rules and assess the WACC parameters on the basis of equity and the regulatory bargain, without providing excessive conservatism to the benefit of the regulated firms[10].

The AER is currently reviewing the various WACC parameters and is to issue its draft decision shortly and its final decision by the end of March 2009. The ERA could take the lead set by the NT Utilities Commission (in its current network pricing review) and decide to defer its decision until after the AER releases its imminent decision on the WACC parameters.

The WAMEU provides its views on the various WACC parameters in the following subsections.

6.1 Inflation

The ERA has advised that it has elected to use a real WACC for this review. The issue now is that deriving a real WACC required an

[10] The WAMEU believes that the AEMC erred badly in the setting of both the WACC parameters and the Chapter 6A Rules, which compounded the over-generous incentives to regulated networks with a high return on investment. The recently seen explosion in capital expenditure claims and in the Regulatory Asset Bases in the current regulatory reset round, is a clear manifestation of the AEMC's error in proceeding with a generous WACC determination, rather than either carrying out a review at the time or requiring the AER to immediately conduct an independent review, with a holistic view of the entire approach embedded in the AEMC-determined Chapter 6A Rules.

independently and market based risk free rate that was indexed. This effectively provided a “real” risk free rate on which to develop a real WACC.

As noted in section 3 above, there is considerable doubt as to whether the indexed bond rate provides such a certainty required for setting a real WACC. In the absence of such a tool, some regulators have built into the real WACC their view of what inflation will be, albeit using input from various sources.

Without this independent market based tool, there is now considerable risk that the inflation value will be either overstated or understated. As a result regulators have added into their estimates a bias towards the regulated business as a form of conservatism. The outcome of this conservatism is that the real WACC is more likely to be overstated than understated in value, providing the regulated business an unearned benefit.

This issue can be readily overcome by eliminating the need for guessing inflation by reverting to a nominal WACC. The issue that ERA points to is that as it allows assets to be valued annually on a depreciated replacement basis, (ie inclusive of inflation) using actual inflation figures, so can the “real” WACC be adjusted to reflect actual inflation and so maintain the regulatory determined relativity between real WACC and the nominal WACC based on a nominal risk free rate.

There is no reason not to adjust the WACC on an annual basis along with the RAB, as the purpose of setting a WACC is purely for setting a revenue stream. It has never been intended that the regulatory WACC should be used by the regulated business as the basis for the way it seeks its funds. In fact this is quite obvious because most regulated businesses have actually operated significantly away from the WACC parameters used for developing the WACC.

It is totally inappropriate for the ERA to attempt to assess future inflation and the concern in doing so is that it will perforce opt for a conservative value. It is much more preferable and equitable for the real WACC to be adjusted annually to reflect actual inflation, just as the value of the RAB is done.

6.2 Debt premium

The ERA has provided a view that a debt premium based on a ratings level of BBB to BBB+. It has been observed that most NSPs are able to

secure debt ratings significantly higher than this. The ERA assumption is that this is the risk that applies for a 60% geared electricity NSP

There is no doubt that the credit rating used is well below the actual level that would be applied to a regulated business with 60% gearing. A recent review of S&P ratings for Australian electricity utilities shows the following publicly available data[11]:

Business	**Gearing**	**S&P rating**
Ergon	69%	AA+
SP Ausnet	65%	A-
Spark	54%	A-
ElectraNet	96%	BBB+

QIC which provides funds to the Queensland utilities (Powerlink, Energex and Ergon) has a credit rating of AA+, matching the same rating that Ergon has directly.

Earlier credit ratings for other electricity entities show a similar trend with the NSW electricity businesses having a credit rating of AA (noting that three – EA, IE and CE also have retail businesses).

In its submission for WP, KPMG cites the credit ratings for Envestra and DUET, noting that these were rated at BBB-/stable, and on this basis considered that BBB+ for WP was a reasonable assessment. It is intriguing that KPMG did provide the figures for electricity businesses, many of which are subject to a revenue cap, and only those for two predominantly gas businesses that are subject to a price cap

In its last independent assessment of credit rating before the changes to the Chapter 6A Rules, the ACCC, for the TransGrid reset in 2005, determined that a credit rating for TransGrid should be A, a step down from the AA rating granted its distribution colleagues. In this same report the ACCC observed[12]:

> "The ACCC considers that relevant Australian electricity transmission and distribution companies should be used as the basis for calculating a benchmark TNSP's credit rating. There are also an insufficient number of 'transmission only' entities with publicly available credit ratings to provide a reliable industry sample.

[11] S&P has rated other businesses but the ratings are not publicly available
[12] Final Decision NSW and ACT Transmission Network Revenue Cap TransGrid 2004–05 to 2008–09 Date: 27 April 2005, pages 141-142

It could be argued that the inclusion of distribution companies in the sample may provide a lower credit rating (that is they have the effect of biasing the sample towards TNSPs) because distribution is regulated by way of a price cap rather than a revenue cap (which is more likely to provide a stronger business profile). According to Fitch Ratings, while distribution operations typically involve a low business risk similar to transmission operations:

"…they have more exposure to volume risk than transmission companies (i.e. volumes are sensitive to mild winters or summers)

Therefore a transmission company is expected to have a stronger credit rating than other players in the electricity industry.

In its sampling of the average credit rating for electricity network businesses the ACCC has included both private and government owned entities. The ACCC considers that choosing stand-alone and private companies would provide too small a sample to obtain an appropriate average credit rating for the electricity industry. The ACCC acknowledges that the inclusion of some government owned companies in the sample is likely to create an upward bias to the credit rating. For instance, Standard and Poor's has stated that the stronger 'AA' credit rating is predominantly given to a government owned utility.24

Offsetting this is the inclusion of distribution companies in the sampling of credit ratings. In most Australian states, other than South Australia and Victoria, the distribution companies are bundled with retail operations. According to Standard and Poor's, retailers operate in a highly competitive market and their credit quality will always be at the riskier end of the credit spectrum.25 Further it is Fitch Ratings' experience that there would be only limited situations where the existence of a retailing capacity would strengthen a distributor's stand-alone credit profile. Therefore the ACCC's sampling, which includes the credit ratings of bundled distribution network companies, is likely to provide a conservative credit rating for the purposes of a benchmark TNSP.

Notwithstanding this, government/parent ownership is only one factor which may affect a credit rating. According to Standard and Poor's, the method used to rate power companies incorporates an assessment of both the financial and business risk characteristics of the entity. The financial risk assessment focuses upon the ability of an entity to generate sufficient cash flows to service its debt and therefore involves consideration of the stability of an entity's revenue and gearing levels. The business risk

> assessment typically considers a broader range of issues which affect the key business or operating characteristics such as:
>
> - regulation;
> - markets;
> - operations; and
> - competitiveness.
>
> By taking into account these additional factors, the ACCC is satisfied that the Standard and Poor's credit rating does not simply reflect the ownership structure, but considers more broadly, the stability of the entity's operations."

This assessment implies that ownership and credit rating are not closely related. This view extends the concept of what a credit rating really is. As S&P and the others (Moody's and Fitch) all observe, a credit rating is not an assessment of the risk of a loan but a rating of the credit quality or the potential that the loan will be repaid.

As S&P advise[13]:

> "A Standard & Poor's issue credit rating is a current opinion of the creditworthiness of an obligor with respect to a specific financial obligation, a specific class of financial obligations, or a specific financial program (including ratings on medium-term note programs and commercial paper programs). It takes into consideration the creditworthiness of guarantors, insurers, or other forms of credit enhancement on the obligation and takes into account the currency in which the obligation is denominated. **The opinion evaluates the obligor's capacity and willingness to meet its financial commitments as they come due**, and may assess terms, such as collateral security and subordination, which could affect ultimate payment in the event of default." (emphasis added)

When viewed in this light, the ACCC observation that the credit rating has less to do with the ownership and more to do with the likelihood that loans will be repaid, is a correct deduction, and one that particular application in the assessment of credit ratings.

There is no doubt that the credit ratings of less highly geared firms should be higher than those highly geared. That ElectraNet (geared as highly as

[13] S&P website Ratings definitions
http://www2.standardandpoors.com/portal/site/sp/en/au/page.article/2,1,1,4,1204838693805.html#ID219

96% has a credit rating of BBB+ puts the lie that all electricity transport businesses should be rated at this level. Even the assessment that the ACCC makes that the rating of A for such businesses is seen as extremely conservative. When the NSW retailer/distribution businesses are all rated AA (and the same Queensland businesses (without their retail functions) are rated AA+, it raises the question whether the level of A+ or AA is a more appropriate credit rating level for the notional business geared at 60% or even 70%.

There is no doubt that when an assessment of all the electricity businesses are reviewed (including the Victorian electricity transport businesses and the SA distribution business) a higher rating than BBB+ or even A is too conservative. When it is recognised that the higher credit rated government owned businesses account for 65% of the electricity assets in the NEM, it seems odd that the lower geared notional business were assessed as BBB+ by the AEMC in the Rules – the same level as the highly geared ElectraNet.

Based on the actual credit ratings of the bulk of the electricity businesses and then proportioning these to the assets involved, there is no doubt that the rating of BBB+ is too low for the notional business and so is the rating of A used by the ACCC.

What is of significant concern to consumers is a view that the ERA will set a credit rating set at the bottom of the scale (ie the lowest common denominator). Such a course of action will unreasonably penalise consumers as the majority of the electricity transport businesses are actually rated much higher than the worst and by using the lowest common rating, it provides an unearned premium for the many higher rated businesses.

One of the concerns raised is that a business involved in refinancing should not be penalised from benefitting by earning a higher credit rating. This point is accepted, but this is an issue for the business – whether it wants to structure itself for a lower WACC by structuring such that it might incur a higher credit rating. This is not an issue for the regulator. The regulator is about structuring a notional business which reflects the actuality of the industry sector the regulated businesses operate in.

The whole concept of regulation is to allow the businesses to seek best practice and to use this comparison as the basis to apply competitive pressure. If the lowest common denominator approach is used this provides no incentive to improve performance and nor does it replicate the

competitive pressure that regulation is to provide as a surrogate for competition.

Based on this analysis the ERA preference for BBB+ becomes excessively conservative and a more appropriate debt rating would be A+ for a business such as WP, which has no competition at all, compared to the miniscule competition faced by those businesses operating in the NEM.

6.3 Gearing

ERA has elected to set its gearing for the notional business at 60% debt

The level of gearing used by an entity has an impact on a number of other WACC inputs, such as debt premium, and the level of risk associated with entity and hence the return expected from the equity element of the investment.

It has been seen that a business will gear itself as high as possible as the higher the debt level the better the overall return to the equity investor. The level of debt a lender will tolerate is related to the amount of the cashflow the business makes relative to the amount of debt provided, and the level of certainty of the cash flow to the business.

A regulated monopoly has a very high level of certainty of the amount of cashflow it will receive and a lender can identify with certainty the security of the asset and the degree the interest charge is covered by the cashflow. The lender is also comforted by the fact that the assets being used as collateral have certainty of future use in the event that the borrower defaults. Assets used with no risk of competition and providing an essential service (and therefore very unlikely not to have a future use), are seen by lenders as the most attractive.

A key feature of lending against electricity transport assets is that the bulk of the assets are government owned and either implicitly underwritten by government or by a very large population of users without any alternative, thereby further increasing their attractiveness to a lender.

Analysis of the actual gearing used by regulated entities implies that gearing higher than 60% debt is not only feasible, but economically efficient. Just using an average of the gearing currently in use implies gearing is actually closer to 70% debt. That entities are successfully operating at gearing levels higher than 70% (for

example ElectraNet is rated by credit agencies at BBB+ - the current benchmark used in the NER) at a gearing of >90% debt indicates that the current level used by regulators is not economically efficient, and that a higher level should be used. The financially engineered businesses tend to be more highly geared operations.

The following table provides a snapshot of the current gearing structures used by regulated businesses.

Ownership	**Regulated Business**	**Gearing**[14]
Public		
Qld Government	Powerlink	62%
	Ergon	69%
	Energex	42%
NSW government	TransGrid	56%
	Country Energy	83%
	EnergyAustralia	72%
	Integral Energy	68%
Tas government	Transend	32%
	Aurora	70%
WA government	Western Power	80%
Private		
Electricity	SP Ausnet (PowerNet, Vic east DB, gas)	65%
	Spark Infrastructure (ETSA, Powercor, Citipower)	54%
	ElectraNet (41% owned by Powerlink)	96%[15]
	DUET (66% United Energy, gas)	79%
	CitySpring (Basslink)	82%
	APT (Murraylink, Directlink, gas)	78%
Gas	Envestra	91%
	Jemena (Singapore Power)	80%
Other	B&B Infrastructure	67%

This table highlights three fundamental aspects:-

1. The clear import of this table is that gearing (debt share of total assets) for regulated energy transport businesses is not 60% and on average is closer to ~70%, implying that the notional (average) business is geared to 70% rather than the historically assumed 60%.

[14] Gearing is measured as total liabilities/total assets and detailed in the latest published financial accounts of the entities

[15] Deduced from Powerlink AR 2007 note 12

2. The table highlights that the majority of regulated electricity transport assets are held by government. It also highlights that much of the privately owned assets (which are geared more heavily, and significantly higher in some cases) are held by financially engineered structures[16] designed to acquire investment in stapled securities from shareholders keen to have stable incomes. From a banking (debt provision) perspective[17], a stable cashflow is essential to attract low premiums for the provision of debt.
3. It highlights that there is an overwhelming ownership of the assets by Australians, either through the government ownership or Australian shareholders of Australian listed investment vehicles. Direct overseas ownership of the electricity transport assets is quite limited, and similarly for investment in the Australian listed entities.

Thus the typical electricity transport asset is:

- Geared to 70% or more
- Government owned (~70%) with perhaps less than 10% directly owned by an off shore business (which is likely to be government owned anyway). Of the balance of ownership, 20-25% is owned by Australian listed businesses, which have a large proportion of their shares held by Australian tax payers.
- Exposed to the provision of debt, reflecting its secure ownership structure, with very stable cash flows.

The financial statement of WP included in the application shows that WP is geared to 80% (debt/assets), continuing the trend that 60% gearing is a very low value when compared to the typical electricity NSP.

On this basis it would be more appropriate to gear the notional business at 70% as this reflects the actuality of the gearing of businesses equivalents to WP.

6.4 Market (equity) risk premium

Market risk premium is the difference between the accumulation index from the share market average return from share growth and share dividends.

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[16] In this regard it is important to assess the basis on which these financially engineered structures were floated. Specifically high yields with a stable income stream are features that were described in such prospectuses. These structures appeal to investors seeking defensive assets for there portfolios.

[17] It is important that the ERA recognise that credit rating agencies (eg, S&P, Moody, Fitch) point out that their ratings are not assessments of debt risk, but more a rating of the certainty that the debt can be repaid.

The MRP has been calculated for Australian shares over more than a century, but using a long term average does not recognise the exogenous changes that have impacted the share market over this time. Jurisdictional regulators (notably ESCV[18]) have observed that MRP does vary over time. The same regulators have pointed out that there are many ways of calculating MRP, with some academics (usually employed by supply side entities) arguing for a higher MRP and some pointing out the errors, erroneous approaches used and misapprehensions highlighting that a lower MRP should apply. For example, ESCV stated[19]:

> "The new material provided to this price review would suggest that there are reasons to believe that the long term average may overstate the expected equity premium (even on the assumption that the expected premium has remained the same throughput history) as well as additional arguments for placing greater weight on the information from more recent observations (which would imply a premium of less than 6 per cent). The other evidence the Commission has considered has remained unchanged since its last consideration of the issue."

This observation implicitly recognises that there have been a number of exogenous impacts on the Australian equities markets over the years since the equities market was first implemented. Such causes of impacts would be:

- Two world wars which had a major impact on the equities market
- The depressions in 1890s and 1930s
- Floating of the Australian dollar;
- Banking and financial systems deregulation;
- Integrating Australian industry into the world market by the virtual elimination of all tariff protection
- A major overhaul of the tax structure
- Introduction of tax imputation
- The "tech boom" of 1998-2000
- The sub-prime crisis of 2007-2008and its subsequent impacts.

Of these, the last seven all occurred in the past 2-3 decades indicating that this period has tended to harmonize the Australian economy with the rest of the world. As a result there is considerable doubt at the relevance

[18] For example, Final Decision Electricity Distribution Price Review 2006-10 Final Decision Volume 1 Statement of Purpose and Reasons October 2005
[19] Electricity Distribution Price Review 2006-10 Draft Decision June 2005, page 306

of market performance data prior to the massive deregulation of the capital markets of the past 25 years or so.

In addition, some recent work carried out by Brailsford, Handley and Maheswaran[20] provides a current view on market risk premium. This work (and that of others, such as the Essential Services Commission of Victoria) points to the need to recognise that there is a relationship between MRP values and gamma used to adjust for imputation credits, and the view that:

- more weight should be placed upon more recent observations as the market has changed substantially;
- geometric means should be used to interpret past data and then adjusted to an equivalent arithmetic mean in order to avoid bias; and
- unexpected asset price inflation over the averaging period has led to an upward bias in the estimate of the equity premium

In its observations as to whether such aspects should or should not be accepted the ESCV observed[21]:

> "Turning to the adjustments proposed… the Commission does not accept the argument … that such adjustments should be ruled out, but rather accepts that this is an area where experts in the area may disagree."

This observation highlights the difficulty the ERA will have in determining a single value for MRP – that experts do not agree and their arguments all seem to have validity.

Experts have identified that MRP shows significant variation between periods. There are various ways to smooth these variations (eg by extending the timeframe which therefore introduces the impact of historical exogenous factors) or by mathematical approaches (eg geometric averaging). Because it is essential to ensure that the MRP values used for the forecasting into the next regulatory period are relevant, the shorter the timeframe used for identifying MRP values, the more relevant, especially for forecasting the near future. Thus using geometric averaging over a relatively short time frame is more likely to result in a more realistic estimate for the short term future.

[20] A re-examination of the historical equity risk premium in Australia, April 2007
[21] Final Decision Electricity Distribution Price Review 2006-10 Final Decision Volume 1 Statement of Purpose and Reasons October 2005, page 361

Because of this wide variation between experts the WAMEU considers there is a need assess outcomes on a holistic basis to identify if the assumptions made in setting the parameters do in fact return an answer which can be sensibly related to outcomes of the competitive market. Data which is applicable to the current conditions of tax, cross border trading, extent of financial deregulation should be used in preference to data based on different market conditions, supporting the view noted above that data over the past 25 years has particular relevance to the expectation over the next five years.

To use data which results from a more constrained market (such as prior to 1980 or so) has the potential to create distortions. As noted there have been periods of high inflation, recession, and other exogenous issues which make the data over the past 25-30 years typical of the expected short term future

When examining the actual more recent data shows there is a clear trend in a reducing value for MRP. Work analysing actual returns earned by listed and unlisted firms using NPBT/assets as a comparator to WACC over a 15 year period[22] confirms this trend. That this trend is occurring is to be expected as the Australian market is both less protected by tariffs and more exposed to overseas competition, which must have the impact of reducing profitability of local firms. This would indicate that the Australian MRP would approach that of other countries such as the UK where Ofgem has used and MRP as low as 4%.

The most recent data indicates that MRP rose recently with the "bull market" but has seen a massive fall in the past 6-12 months as the stock market fell. The WAMEU does not see that the ERA should use the last 12 month MRP as the basis for the WP regulatory decision, but does consider that a more typical period be used. If the last 20-25 year period is used the MRP is closer to 5% than 6%.

On this basis the WAMEU considers a MRP of 5.5% is reasonable.

[22] For example, see "Further capital markets evidence in relation to the market risk premium and equity beta values used by regulators for regulated businesses in the National Electricity Market" by Headberry Partners P/L and Bob Lim & Co P/L for Electricity Consumers Coalition of South Australia, December 2003

6.5 Equity beta

Along with the valuation for market risk premium, equity beta is probably the most contentious element of the WACC parameters. Initially, Australian regulators determined equity beta for regulated businesses at 1.0., but over the past few years jurisdictional regulators have identified that the setting of this value at the average of all businesses, was inappropriate as the regulated businesses were seen to have very stable incomes, with a high degree of predictability. One reason for this has been the consistency of regulation and a recognition that regulators were prepared to take a conservative stance.

The AER makes the (very valid) point that the equity beta should represent the non-diversifiable risk of the regulated firm. This in effect supports the view that the equity beta will be assessed on the basis of notional business rather than any specific enterprise. Thus the equity beta used should reflect how the notional business is impacted by exogenous changes rather than those initiated by a firm.

In regard to the level of risk faced by regulated electricity businesses under the recently revised National Electricity Rules, it must be recognised that the risk to these regulated electricity businesses has been further reduced.

The trend away from using an equity beta of 1.0 has in part been driven by a recognition that the initial value of 1.0 was considered to be extremely conservative, but as the ESCoV noted in its 2005 electricity distribution review[23]:

> "Inevitably, equity beta estimation requires judgement and, given the Commission's concern for stability and predictability in decision making, particularly judgement as to whether and to what extent any new information would justify a change from previous decisions."

The ESCoV went on to state (page 356):

> "In view of the problems with interpreting recent market evidence and the Commission's view of the importance of creating a stable, predictable and replicable regulatory regime, and having regard to the results of more sophisticated estimation methods, the Commission has again adopted an equity beta of 1 to estimate the cost of capital associated with the distributors' regulated activities. That said the Commission remains of the

[23] Op cit, page 345

> view it has expressed in previous decisions that it would envisage placing more weight on market evidence on equity betas as the problems with the quality of data are remedied, the extent of information available improves and techniques for interpreting that evidence are refined."

Some 18 months later, the ESCoV in its 2007 gas distribution review[24]:

> "The Commission has relied upon a report from ACG in its consideration of methodological and empirical information. The Commission has relied upon this report in preference to the study referred to by the distributors (Gray et. al. 2005) given that the former makes use of more recent data, demonstrates the results from applying a greater range of methods (i.e. the effects of several techniques for adjusting for outliers, including that used by Gray et. al. 2005) and presents its results without the Blume adjustment being applied."

Thus it is clear that the ESCoV has now identified that there is a persuasive argument to vary its assessment of equity beta. That it took the ESCoV so long to reach this decision when other jurisdictional regulators (eg ESCoSA) and governments (eg SA Treasury when required to review the decision of ESCoSA) had reached a view that there had been sufficient information to reach this decision earlier, is indicative of the high level of conservatism that has pervaded this setting of this WACC parameter since the first review of it was held in 1998 (the "Great WACC Debate of '98").

Despite the clear evidence that equity beta of 1.0 was too high for such a stable sector, the ACCC refused to move from this value, and the AER was prevented from doing so by the AEMC decreeing in Chapter 6A Rule change that equity beta of 1.0 was to be used.

It is noted that although the ESCoV has decided that equity beta should be 0.7, it also allowed for a "soft landing" for the businesses by effectively converting this value to 0.8 by the provision of other funding.

There is now a clear trend amongst regulators that equity beta of 1.0 is too high, and there is persuasive evidence that the equity beta should be no more than 0.7 for a regulated energy transport businesses[25] and potentially lower.

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[24] GAS ACCESS ARRANGEMENT REVIEW 2008-2012 FINAL DECISION – PUBLIC VERSION 7 MARCH 2008, pages 475 476

[25] See for instance Allen Consulting Croup Empirical evidence on proxy beta values for regulated gas distribution activities June 2007, and M Lally REVIEW OF PARAMETERS IN THE NATIONAL ELECTRICITY RULES 19 September 2007

There is now market evidence from the relative few Australian listed energy transport businesses that the equity beta is of this value[26], replicating the observations of similar firms in overseas jurisdictions. In fact when the impact of the reduced risk profile resulting form the changes to the NER is added to the work by ESCoSA and ESCoV, there is a strong argument that even an equity beta of 0.70 could be too high.

The WAMEU considers that there is clear evidence that equity beta for WP should be no more than 0.7 and potentially much lower.

6.6 Gamma

Gamma is the parameter used to assess the value of imputation credits to the shareholders of a business. The lower the value of gamma the less imputation provides value to shareholders. If all shareholders benefit to the maximum, then gamma is 1.0. Lally[27] puts it that gamma and equity beta are intertwined and both need to be assessed jointly.

This issue has created significant debate, almost rivalling that on market risk premium and equity beta. It is quite apparent that there is no clear answer, and that the experts differ widely.

In its decision on the gas distribution reset in Victoria, the ESCoV states[28] (after an extensive analysis of the issue on page 509):

> "Accordingly, the Commission concludes that the empirical evidence implies a gamma range of either up to 1.00 or 0.72. All of the distributors' proposed values for gamma fall materially below these figures, and so the Commission does not consider those estimates to be 'best estimates … arrived at on a reasonable basis' of the benefit that the distributors should be assumed to derive through the dividend imputation system."

It goes on to say:

> "Regarding the value that the Commission considers to be appropriate, the Commission notes that it has previously used an assumption of 0.50 for gamma. While the Commission has not been persuaded that the theoretical and empirical propositions justify a downward revision to gamma as

[26] See attachment 2
[27] Op Cit
[28] GAS ACCESS ARRANGEMENT REVIEW 2008-2012 FINAL DECISION – PUBLIC VERSION 7 MARCH 2008

> proposed by the distributors, the Commission has also formed the view that, given the range of assumptions implicit in the empirical estimates, it would be inappropriate to raise the gamma assumption from the previous value of 0.50."

While the debate detailed in the ESCoV decision revolved around assumptions as to the extent as to the take up of credits and the implications that would apply if the regulator determined that the tax implications deliberately disadvantaged foreign owners, such a s the Nash equilibrium as asserted by SFG on behalf of distributors[29] (page 505, 506):

> "…the Nash equilibrium that SFG evokes to establish a market clearing environment (which is satisfied only if gamma is assumed to be zero) would appear to over simplify the investment making decision process. The constraints applied by SFG do not recognise that investors make investment decisions on the basis of both risk *as well as* return, and that the risk of a particular asset will depend upon the portfolio of stocks that is held by that investor. Such an observation means that, in a world where there is some foreign investment but not perfect integration of financial markets, foreign (or non-resident) investors (who are likely to hold a portfolio of stocks that are dominated by foreign firms) may require a different return from Australian stocks than that required by Australian residents (which are likely to hold portfolios of stocks that are dominated by Australian firms). Under the Nash equilibrium scenario, SFG determined that:
>
> - Australian resident investors will always hold Australian stocks because they receive an imputation return that is denied on foreign stocks. Where share prices attribute (capture) a value for imputation credits, Australian residents may only earn their required return; whereas if share prices do not value imputation credits, the value attributable to imputation credits represents the equivalent of a consumer surplus. In either case, Australian resident investors will prefer Australian stocks.
> - In contrast, if Australian stocks attribute a value to imputation credits, then nonresidents will not earn their required returns and will sell (or not hold) Australian stocks. Consequently the only Nash equilibrium is the one that ensures that nonresident investors earn their cost of capital, which is one that implies a zero gamma."

Where this very basic assumption falls down is by examining the actuality of investments made by Australian investors and foreign investors. In practice, Australian investors do invest overseas, as part of diversification

[29] Ibid

of risk. It is common to see that an investment portfolio clearly identifies that it invests 30% or more of its portfolio overseas as a diversification strategy. In making such statements the investment business does not declare that it is diversifying in full knowledge that this will result in a reduction of return due to the loss on imputation credits.

Conversely, many overseas investors do buy into Australian equities in the full knowledge that they will receive a lower benefit than Australian residents due to the existence of imputation credits that they cannot use. This has not prevented investment in Australian equities.

Overall, it is not the existence of imputation credits that determines an investment profile, but the need to diversify in order to hold a portfolio of investments that meets the return criteria determined.

The returns currently available to foreign investors in Australian utilities (see section 2.3) are so high as to actively encourage foreign investment, even in the absence of imputation credits. That the regulated assets of the Alinta portfolio were acquired by Singapore Power (even after any experiences they had after the acquisitions for the SP Ausnet portfolio) attests to this, and clearly disproves some of the assumptions used by SFG.

In making investment decisions, it is clear that the market as a whole attributes only a minor value to the value of imputation credits; rather the market examines the totality of the returns that it will receive from its investment. As the current dividends from the utilities sector are amongst the highest for any sector, it is patently obvious that imputation is one of the least concerns to foreign investors.

In light of the actual market decisions in relation to imputation, the examination of the issues by Lally[30] provides some very clear views about the assumptions made in developing a value for gamma. Lally is of the view that effectively no cognizance (ie that gamma should be 1.0) should be given as to whether imputation credits should be a factor in the allowance of costs when using CAPM.

The evidence of the market is that foreign investors do invest in the Australian market and do so knowing full well that (except in the case of regulated assets) they will forgo imputation benefits that Australian residents will accrue. This has not prevented investment by foreign

[30] REVIEW OF PARAMETERS IN THE NATIONAL ELECTRICITY RULES 11 September 2007 Martin Lally

investors entering the Australian market. It therefore seems incongruous that special consideration be given to foreign investors in regulated assets. Lally comes to the same conclusion from a theoretical direction. Lally finally concludes that a gamma of 1.0 and an equity beta of 0.75 based on an asset beta of 0.30. A lower value for gamma would lead to a lower value for equity beta.

On balance, the WAMEU considers that using an equity beta of 0.70, a gamma value of 0.85 is appropriate.

6.7 Debt and equity raising costs

As a core element of assessing the costs to source debt and equity, it is essential to identify the sources of these fund types, and from this identify how these costs relate to firms operating in a competitive sector.

Debt is sourced from potential borrowers – both conventional and involuntary. Each tranche of borrowing has a term related to it. Based on the term and the type of borrowing each has its own unique cost to implement. For the purposes of establishing the debt raising costs, the ERA should identify a probable duration for the bulk of the debt raised and to use this as the basis of its debt raising cost. An appropriate approach would be for the ERA to seek advice from potential lenders of large tranches of debt to identify the typical term of a debt facility for a regulated (ie cash stable) business. From this the development of debt raising profile for a regulated business can be established. In the absence of such development of a profile, the ERA will be continually encouraged by WP to maximise the debt raising costs at each regulatory reset.

The WAMEU accepts that debt raising does incur a cost and debt raisings are a constant. On this basis the WAMEU considers that debt raising costs should be assessed in light of the term of the debt, and averaged over this time. As debt raisings are usually longer term than three year regulatory period, it is questioned whether there should be an allowance for debt raising at every three year reset. The ERA should not encourage WP to have a 3 year debt cycle, and by not allowing for debt raising costs at every reset, it can provide both some discipline on WP and lower costs for consumers.

Equity, on the other hand, is sourced from three sources – the depreciation account (whilst depreciation is an item on the P&L it is a non-cash item, allowing the cash to retained in the business and used for other purposes), retained earnings and new equity raisings. It is the

minimization of equity raisings that tends to constrain the amount of capital a firm accesses to provide for future investments. Most firms do not go to market to raise new equity except under exceptional circumstances, as traditionally seeking an equity raising is often accompanied by a reduction in the share price, even if for a relatively short time.

When assessing the costs of equity raising, it must be recognised that the bulk of the equity raised by a firm incurs little or no cost at all. On this basis the costs of equity raising should as a minimum only allow for equity used for capex in excess of the amount of regulatory depreciation included in the regulatory accounts, and the amount of retained earnings.

In the case of WP the bulk of its equity was effectively granted to it by the government from the assets of the vertically integrated business from which it was derived, and therefore incurred no equity raising costs at all.

Whilst the economic theory underpinning the regulatory approach used in Australia for valuing assets and the costs incurred by monopoly service providers is to attempt to replicate a current market condition as if the business was in competition[31], electricity consumers have in the past provided the basis for the funding of the electricity networks. Governments raised debt to fund the network based on the ability of the WA tax payers to repay this debt over time. As electricity use is ubiquitous, for practical purposes, WA tax payers and electricity consumers are effectively the same class.

In practice, the costs for equity raising for WP were provided by tax payers (read electricity consumers) in the past, and therefore consumers should not be required to pay for it again.

It is accepted that the amount of earnings retained by a firm will vary from firm to firm, and on the dividend payment policy. Notwithstanding this, it still possible for the regulator to make an assessment (such as for the notional business) which identifies the likely return on equity the business will earn from the regulatory decision, and against this net of the dividend paid by the sector as a whole and so derive an indication of the retained earnings that can be used for a share of the equity.

[31] The structure of the revenue due to a monopoly service provider under the regulatory approach is to allow costs as if the regulated monopoly was operating in a competitive market, so that a competitor (if one ever appeared) would not be competitively disadvantaged by the existing service provider using lower costs resulting from its origin, to prevent the competition. This argument is spurious because no new competitor is ever going to provide competitive electricity distribution services or transmission services.

It is important to note that the Australian Energy Regulator (AER) accepts this approach and assesses the share of new capex attributable in theory to be sourced from new equity. The AER actually assesses the amount of retained earnings and from this matches the "equity share" of the new capex to ensure that new equity (and therefore equity raising costs) is not required.

For example, in the recent draft determination on the NSW transmission business (TransGrid) the AER has not allowed for any equity raising costs as it considers there is adequate self funded capital available to obviate the need for any external equity raising.

Table 5.16: Benchmark capex funding requirement ($m, nominal)

	2009–10	2010–11	2011–12	2012–13	2013–14	Total
Capital expenditure funding	564.3	480.9	610.2	588.6	441.9	2686.1
Debt funding component	338.6	288.6	366.1	353.2	265.1	1611.6
Equity funding component	225.7	192.4	244.1	235.5	176.8	1074.4
Less: retained cash flows	200.3	216.9	225.4	243.3	264.4	1150.4
Additional equity requirement	25.4	–24.5	18.7	–7.8	–87.7	–76.0

Note: Negative sign for the additional equity requirement row indicates that there are sufficient retained cash flows to finance the equity component of capex.

Of overall concern is that consumers have seen the approaches used by regulated businesses ever seeking to find reasons why they are worthy of a higher debt or equity raising cost than was awarded at the previous reset. Such an ever increasing spiral is to the advantage of the regulated business and to the detriment of consumers.

The WAMEU accepts that there are costs incurred in raising debt, but these costs can be minimised by seeking longer term debt. In the case of equity raising costs, WP should only be allowed for the costs in raising equity if it actually incurs costs when raising funds for its equity share of new capital expenditure.

6.8 Conclusions

The ERA is charged with developing a series of WACC inputs which are prudent and efficient, but not to include such levels of conservatism that the outcome is inefficient. Because of this concern this submission makes

the point that a holistic review is required on completion of the assessment of each element in order to test whether the whole is comparable to the returns earned in the competitive environment.

From the WAMEU analysis, it is clear that regulated businesses do enjoy better returns than would be achieved if competition applied to the sector. As an initial assessment, this submission is of the view that the following WACC parameters should be used for the notional electricity transport business in WA.

Parameter	Value range	WAMEU recommended set point
Risk free rate	Based on the nominal 10 year CGS	
Inflation	Using RBA current data, then trend to 2-3% target range	
Debt premium	Based on S&P A+	
Gearing	Within the range 65-75%	70%
Equity premium	Within the range 5-6%	5.5%
Equity beta	Within the range 0.6-0.70	0.70
Gamma	Within the range 0.72-1.0	0.85
Equity raising	No allowance except where equity is actually raised externally	
Debt raising	Mid range estimate gross underwriting fees only	

7. Capital Expenditure (capex)

Capital expenditure is an essential element of maintaining and augmenting the output of any business. There are constraints on accessing capital for any business, but capital (especially debt capital) is more readily available for businesses with a strong and stable cash flow underwritten by bankable customers of the business. In the case of WP, it has a regulated (and therefore stable and known) future cash flow, effectively underwritten by the tax payers/consumers of WA.

The building block approach to regulatory revenue setting comprises

Revenue = Asset value*WACC
+ capex*WACC
- depreciation
+ opex
+ incentive payments

This demonstrates that the bulk of the profits a regulated business earns are embedded in the WACC, as all other major elements in the building block (asset values, depreciation and opex) are included in the equation at cost.

These two aspects when combined, has the direct effect of incentivising a regulated business to increase its asset base by maximising capex in order to increase its cash profits. As a direct result, WAMEU has an underlying concern that the WP claim for a massive increase in capex, might in part be driven by needs other than those of the electricity network.

Therefore, WAMEU requests that ERA ensure that the actual allowances for capex to WP be fully substantiated and be the minimum necessary to address the needs of the network, rather than what appears to be an ambit claim.

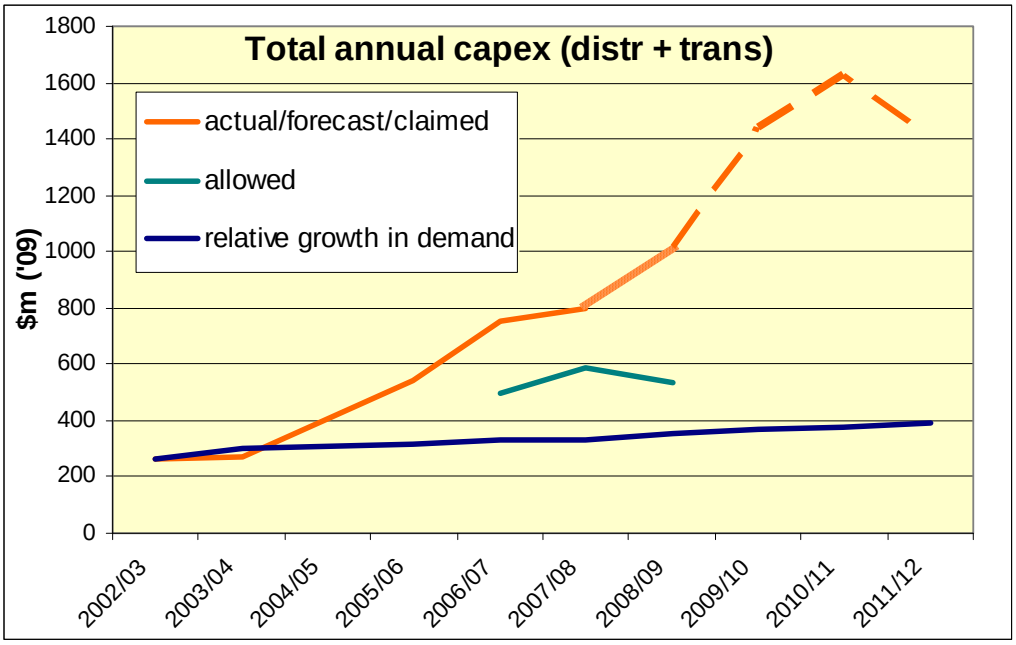
7.1 An overview

WP provides for its capex forecast in two sections – transmission and distribution. By following this process it tends to distract from the enormity of the task WP is proposing. As the following chart shows actual capex to the June 2008 was at a level of $800m pa, rising from a base of some $300m in 2003/04.

It is widely accepted at a technical level, that the size of assets (and therefore costs) needed for electricity transport systems reflects the

demand in a system rather than consumption, although asset growth in distribution systems is influenced by numbers connected and therefore is also influenced by consumption. That this is the case is typified by WP (and all other electricity service providers) using increases in demand as the basis for their capex programs. Regulators, too, accept that it is demand that is the prime driver for the cost of the assets used.

For the sake of clarity, the growth in demand over the period is related to the amount of capex in year 02/03. What this shows is that from 02/03 to 11/12 demand is expected to grow by ~50% whilst capex will grow by ~500%, a five times premium. There is a clear disconnect that must be investigated.



Source: WP AAI 1 and AAI 2 documents

The chart shows that in 2005, WP was allowed an increase in capex to an average of ~$600m pa in the 2005 pricing reset by the ERA. WP exceeded this allowance by some $200m pa, knowing that in principle actual capex incurred would be rolled into the RAB. This meant that effectively WP faced little risk in overspending on capex as it would receive a full return on the capex overspend within 2 years at most. The final year of AA1 is still to be completed yet WP is forecasting it will spend some 50% more in the final year than it spent in each of the preceding years.

In total, WP is forecasting that it will double the capex of the first two years of AA1 in AA2. Yet at the same time, growth in both demand and consumption is only forecast to grow by 3.3% and 2.2% respectively. This then raises the fundamental question as to what is WP achieving with its expanded capex program – it certainly cannot be growth related! The relative increase in demand using a base of year 02/03 shows that capex has far outstripped growth in demand.

Other reasons for capex are to improve reliability, quality and sustainability of the service, but analysis of the WP AAI 1 and AAI 2 documents indicates that much of the capex for AAI 1 was for growth assets, and little was for replacement of assets (see section 5.1 above) that would increase service performance.

What has been totally overlooked within the planned capex program, is the ability of consumers to pay for the large increases. It appears that WP has not employed commercial reality in its plans to grow the WP business. Commercial reality is that a firm will only invest if the market growth shows there is a need and that the market can withstand any increase in costs. WP has already shown that its current capex program has managed to address the significant growth experienced in the current period, and the WAMEU accepts that a similar capex program might be needed for the next. What is not accepted is that the capex program needs to be effectively doubled.

A review of the WP Annual Planning Report (APR) indicates that WP considers that major augmentations are needed at many existing substations and feeders to and from these.

WAMEU would point to the experience of its members in regard to their capex programs. Member businesses are continually under capex constraints (as distinct from the apparent WP situation) where capex needs to be justified in detail and that alternative incremental improvements can no longer provide the increased capacity required. Before capex is approved a member business also has to justify that the market can withstand the cost impact of the capex program envisaged.

Applying such commercial pressures on WP would require it to approach the issues it has in ways similar to those when WP was government owned and operated under the financial constraints imposed by government. For example, minor operational changes can have the effect of significantly increasing capacity. This means that rather than assuming assets must be augmented now, WP should identify if there are approaches and techniques which can be used to marginally increase

ratings of assets, establish if the economic downturn will ease the pressure on these assets, or even if the consumers connected can afford to pay for the increased costs.

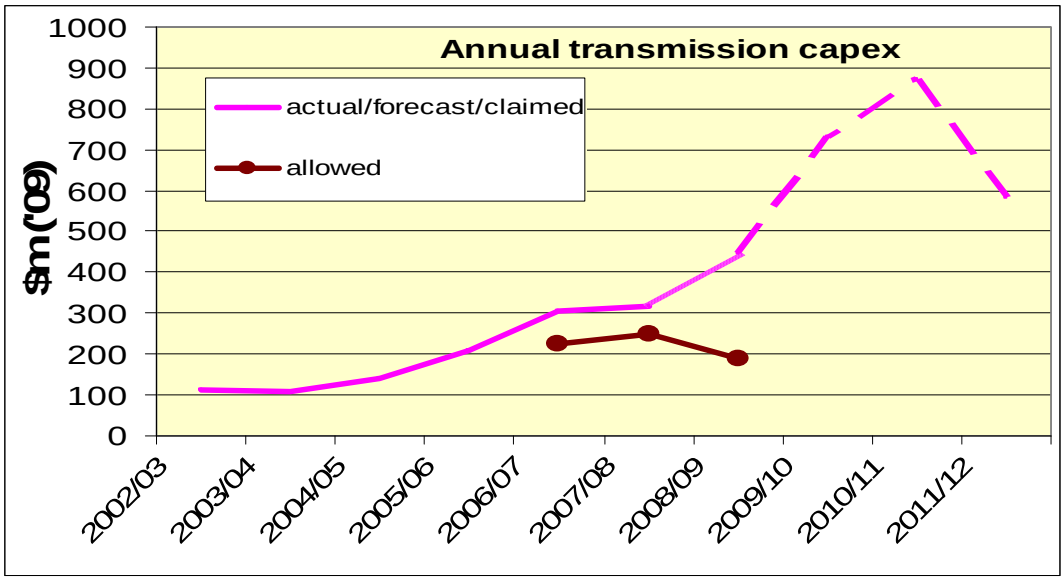
So far, WP has only identified that there might be a need (and this has not been proven by any stretch of the imagination) but has overlooked whether consumers can afford the costs. WP is relying on the fact that it has a revenue cap and therefore faces minimal risk on its investments.

Capex also can be used to improve service standards and WP provides an indication of the likely service standards consumers will enjoy as a result of its capex program (see Section 9, below for analysis of WP's service target incentive scheme.). These show that there will be some lesser performance as well as some improved performance, but the fundamental question remains, **does the overall marginal increase in service standard match the massive capex program WP is proposing?** In fact WP was able to provide a better service performance with its current capex program, which also met the needs of the higher growth identified in AA1. Growth will be less in AA2 but WP is intending to massively increase its capex!

As noted in section 3.3 above, the inclusion of an estimation error of 3.5% into capital costs should be excluded as it is totally inconsistent with the use of a probabilistic approach to the development of a capex allowance.

7.2 Transmission capex

The chart below shows the actual, forecast and claimed capex along with the allowed capex in the AA1 decision.



Source: WP AAI 1 and AAI 2 documents

The IMO SoO provides that one reason for the step increase in capex for the 08/09 period is for the Boddington expansion, and there is s reference to it in AAI 2 in a transfer from an IMO document but neither the AA1 document nor the AAI 2 document specifically references this project as a cause for the 08/09 step increase in capex!

WP provides a view that a net increase in generation of some 680MW will be added during AA2, made up of 5 new generation projects. WP notes that each of these new generators is to connect to existing switchyards or substations although the proposed Collie and Kwinana generators might need new facilities.

WP notes in section 4.2 of AAI 2

> "…there are four principal drivers of increased expenditure compared to historic levels. These are:
>
> - the unprecedented growth in electricity demand and the connection of additional generation capacity;
> - the on-going impact of previously constrained expenditure;
> - more onerous safety, health, and environmental regulations; and
> - the continuing increase in unit costs, particularly in light of the resources boom in Western Australia.

In its AAI 1 section 4.2 report WP stated:-

"…there are six principal drivers for increased expenditure from historic levels. These are:

- the impacts of previous budget constraints;
- facilitation of market reform;
- asset replacement;
- facilitate the connection of additional generation capacity;
- achieving and maintaining network performance in accordance with approved planning criteria; and
- compliance with more onerous safety, health, and environment regulations.

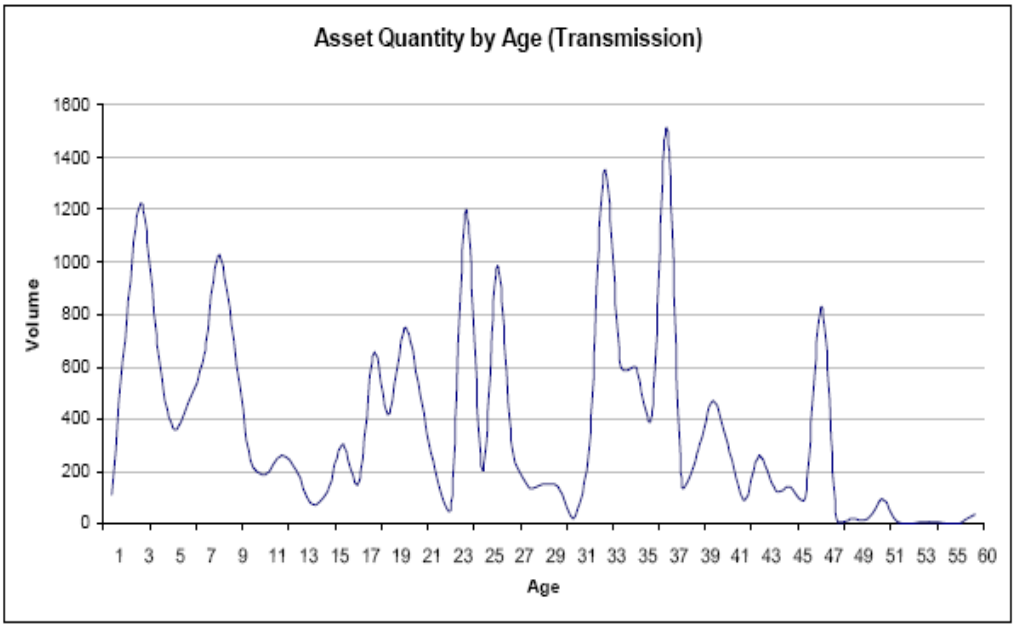
An increase in regulated allowances needs to be justified by step changes that have occurred and impact on the regulated business. Otherwise, there is an assumption that the previously allowed regulated capex would match the needs of the regulated firm. Notwithstanding this, ERA granted a significant increase in capex for AA1.

In the reasons given for the increases in transmission capex there are the previous constraints in allowed capex and increased compliance. Both of these were to be resolved in the AA1 capex but WP considers that there is even more to be done than it was able to achieve in its expanded capex program for AA1. Neither of these provides a step change for capex needs.

WP provides an indication of the age profile for its transmission assets (AAI 2 figure 28) and based on this provides a view that its assets are excessively old. It does not provide a similar indication of age profile for its distribution assets.

WP also provides depreciation schedules for its transmission assets (AAI 2 table 32) and distribution assets (AAI 2 table 49). These depreciation schedules highlight that on average transmission assets have a life of some 50 years and distribution assets of some 40 years. These same asset lives are replicated for similar electricity network businesses in other Australian jurisdictions, although others seem to consider distribution assets have average asset lives approaching those of transmission.

Figure 28: Transmission asset age profile



What the data provided by WP does indicate is that the average of its assets has an average age profile in the middle of 20-30 years. This is typical of the average age of all transmission businesses as has been identified at the regulatory reviews of the many other transmission and distribution businesses in Australia.

The data provided by WP indicates that the average age of the assets is at about half their economic life. This is not a reason to commence a massive replacement program but rather to continue at the current rate of replacement. The investments made in AA1 have provided an offset to the overall aging of the assets and based on this the WP transmission assets will continue to have an average age within the 20-30 year period typical of the industry. Certainly there is no need to replace assets so that the average age reduces.

This view is supported by figure 30 in AAI 2, which shows that the bulk of the planned capex is not driven by a replacement program

In AA2 WP cites "unprecedented growth" and "continuing increases in unit costs" as the other two drivers for the transmission capex. AAI 2 figure 30 clearly shows that the bulk of the increased capex sought is being driven by capacity expansion and generator connections. This seems inconsistent with the IMO forecasts of a lessening growth in AA2 compared to AA1 (on both on a demand and

a consumption basis) and the move towards recessions in many first world countries (see section 4.4 above) provides a clear answer to the driver of "increases in unit costs"..

When the main reasons cited by WP as the drivers for the increased capex are addressed (either no longer real or not a step change) it raises the question as to why there is a need for any capex increase at all.

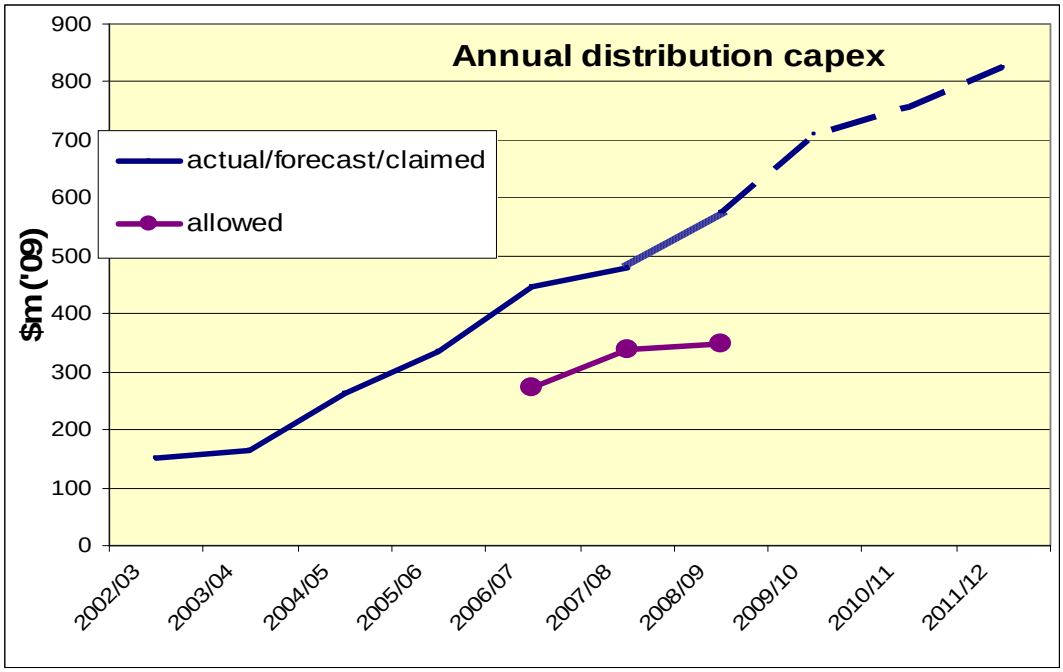
The WAMEU considers that at most the current level of actual capex at an average of $350m pa should be more than adequate to match the pressures on WP to provide transmission capex, and is very concerned that WP has increased its demands for transmission capex from current levels but without providing adequate reasoning to sustain an increase to an average of $700m pa, twice the average actual capex incurred. There is neither the growth forecast, nor an increased need for replacement that can be argued for a doubling of the current levels of capex.

7.3 Distribution capex

The chart below shows the actual, forecast and claimed capex along with the allowed capex in the AA1 decision.

As with transmission the forecast capex for the year 08/09 shows a significant increase from the actual levels of capex for the past two years.

It would appear that the allowances for AA1 were predicated on capex needs identified during 2005, and effectively maintained that level of capex. That WP saw the need to increase capex above the allowances included in the AA1 provides an indication that allowed capex might have been underestimated as the forecast increases in demand particularly, were clearly an underestimate.



Source: WP AAI 1 and AAI 2 documents

In AAI,1,section 3.2, WP provided the following reasons for its need for increased capex, where it stated:-

> "…there are six (sic) principal drivers that lead to a need to increase expenditure from historic levels. These are:
>
> - the impact of previous budget constraints;
> - facilitation of market reform;
> - load growth;
> - review of design standards;
> - reliability;
> - asset condition; and
> - safety, environment and statutory compliance obligations."

Based on its assessment ERA granted a significant increase in capex to accommodate these needs.

In AAI 2, WP comments that its needs for increase distribution capex are that:-

> "Section 4.2 of Part B explained that in relation to transmission capital expenditure, there are four principal drivers of increased investment from historic levels. These are:

- the unprecedented growth in electricity demand and the connection of additional generation capacity;
- the on-going impact of previously constrained expenditure;
- more onerous safety, health, and environmental regulations; and
- the continuing increase in unit costs, particularly in light of the resources boom in Western Australia.

To some extent each of these four factors is equally relevant to Western Power's distribution network. Each of these factors is discussed in detail in section 4.2 of Part B and, therefore, is not repeated in this section. It is also noted that section 4.2 of Part B also refers to supporting reports from consultants Access Economics, Evans & Peck and SKM, which are included as Appendices 2, 3 and 4 to this document. The remainder of this section explains Western Power's approach to the following distribution-specific matters in the forthcoming access arrangement period:

- Replacement of aging network assets;
- Feeder load reduction strategy;
- Reliability performance improvement; and
- Compliance related initiatives."

WAMEU has made its observations regarding the transmission elements in section 7.2 above, and observes that its comments are just a valid for distribution as they are for transmission.

As noted for transmission capex, the question arises as to what step changes have occurred that would indicate that the actual capex of AA1 would be insufficient. In fact the drivers for distribution capex have if anything reduced between AA1 and AA2, with the absence of the AA1 drivers of facilitating market reform, and review of design standards.

A number of regulators of distribution assets use the last year of actual data as the base point for assessing capex and opex. If this approach is followed then a reasonable capex start point would be between $450-500m pa. This might be adjusted for step changes – both upwards and downwards. There have been downwards step changes and WP has not provided justification for any upwards step changes. On this basis the allowed capex would need to be closer to $450m pa which is still a 30% increase in capex from that allowed for AA1.

WAMEU considers that the "right answer" lies between the allowances made for AA1 and using the last full year capex as the base and adjusting for identified step changes. Such an approach would recognise that demand and consumption growth is expected to ease for AA2, and this will

be impacted by the overall decline in the economy – whether caused by overseas declines or local declines, or a combination of both.

7.4 Benchmarks

WP provided a listing of capex comparators prepared by PB in AAI 2, appendix 1. This analysis raises a number of observations.

1. It is not clear whether the PB data is based on current actual capex (ie AA1), or whether the PB data reflects the capex amounts for AA2.
2. PB observes that WP is the only electricity transporter that carries out both distribution and transmission. This observation only has validity with regard to benchmarks if one of the WP businesses has a lower benchmark and the other higher. In fact, in the comparisons WP is almost always consistently higher than the comparators for both transmission and distribution, obviating this as an issue (in fact, there is an argument that there are significant benefits that derive from economies of scale by combining transmission and distribution business).
3. WP observes that it is difficult to separate where subtransmission lies in comparisons. This has some validity but as WP is consistently high compared to the others this observation tends to lose credibility and impact
4. WP transmission considers it is unique in relation to its coverage. ElectraNet (SA) and Powerlink (Qld) make the same observations, and probably the long “stringy” ElectraNet faces lower density than WP.
5. WP transmission opines it has one of the highest forecast growths, but demand in Queensland has consistently outgrown WA growth over the past decade with a peak demand growth of a consistent 5% pa whereas WP has a forecast lower growth
6. WP distribution observes its high capex/RAB is due to a need to catch up, yet WP assets have a similar age profile to similar businesses effectively negating this observation

7.5 Conclusions

WP has made a highly ambitious ambit bid for a massive increase in capex. It has overspent the allowances granted for AA1 indicating that these might have been low.

WP provided a listing of the drivers for its planned capex program but upon analysis of these, there is not much change from those applying for AA1 and WP has set its own capex benchmarks for the AA1 period. Comparative benchmarking (its own and external) indicates that WP capex for both transmission and distribution is excessive.

The electricity system in South Australia has many features similar to that in Western Australia, and both ETSA (distribution) and ElectraNet (transmission) have raised similar reasons for increased capex that have been raised by WP. As one benchmark, ESCoSA allowed ETSA capex which was ~5% of RAB pa, and AER allowed ElectraNet ~9% of RAB pa. This compares to the WP (transmission) claim of 18% of RAB (twice that for ElectraNet) and WP (distribution) of 16% of RAB (three times that for ETSA). If ERA accepted the WAMEU suggestions for capex then these annual capex/RAB benchmarks would be about 10% for transmission (similar to ElectraNet) and about 9% for distribution (still nearly twice that for ETSA).

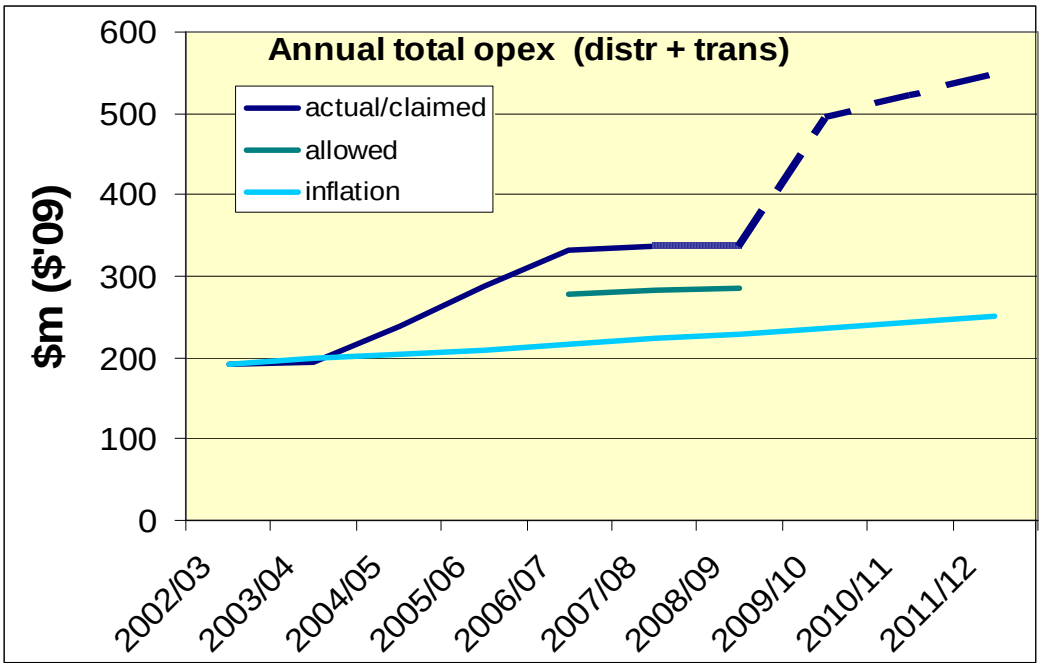
WAMEU considers that ERA should undertake its own comparative analysis of the WP claims for capex, particularly benchmarking WP against its own AA1 performance. When such an analysis is completed ERA will find that the WP claims for capex are between 80% and 100% too high!

8. Operating Expenditure (opex)

8.1 An overview

WP provides for its opex forecast in two sections – transmission and distribution. By following this process it tends to distract from the enormity of the task WP is proposing. As the following chart shows actual opex to the June 2008 was at a level of $330m pa, rising from a base of some $200m in 2003/04.

For the sake of clarity, the growth in inflation over the period is related to the amount the amount of opex in year 02/03. What this shows is that from 02/03 to 11/12 inflation is expected to grow by ~30% whilst opex will grow by ~300%, a ten times premium over inflation. There is a clear disconnect that must be investigated.



Source: WP AAI 1 and AAI 2 documents

The graph shows that at the setting of opex allowances for AA1, the ERA was influenced by the opex applying for the last full year of actual data. This makes sense as WP should be used as its most equivalent benchmark.

In fact, the ESCoV in its decisions for the electricity and gas distribution businesses provided a very strong incentive for businesses to set their

own performance benchmarks. The ESCoV used the last full year of actual data as the benchmark for efficient opex after it introduced the incentive program, and then adjusted this self set benchmark for each regulated business by allowing movements to reflect actual step changes affecting each business.

Such an approach is similar to the use of Total Factor Productivity to adjust opex, based on the average performance in a number of criteria accessed from a number of similar businesses and the national economy.

The WAMEU considers that using self benchmarks and benchmarking from other similar businesses provides the best approach to setting opex.

8.2 The inter-relationship between opex and capex

Although capex and opex are usually independently assessed there is a strong inter-relationship between the two. In fact, the benefit of increased capex for most aspects should result in decreasing opex. What has almost become the norm for the granting of capex and opex by regulators to electricity (and gas) businesses, is the granting of a major increase in capex (usually predicated on the assets being old) coupled to a major increase in opex (usually because the RAB has increased).

The WAMEU is of the view that the reason for this upward spiral of opex levels results from the misguided but widely promulgated view by electricity transport businesses that opex *rises as a consequence of increasing RAB.* This is totally incorrect. Based on the experience of WAMEU members, there are three reasons why the RAB increases over time:-

1. By replacement of existing depreciated assets with replacement assets (commonly referred to as refurbishment)
2. By replacement of existing assets with larger assets to reflect an increase in demand (commonly referred to as augmentation assets)
3. By extending the reach of the existing assets (commonly referred to as expansion assets)

When examining the opex implications of each of these reasons for asset base to increase in size, the justification of increased opex can be put into proper context.

(i) Opex from refurbishment

There is no doubt that refurbishment increases the value of the asset base. Replacement of a depreciated asset with new assets will axiomatically result in an asset base increase.

However, the business case for justification of refurbishment is usually presented as a *reduction* in opex. In competitive enterprise such a business case is made on the basis that recovery of the capital will result from the saving in opex, often with a payback duration measured in months, and commonly within two years[32]. If this business case cannot be made for allocation of capital, the continuing opex related to keeping the asset in working order is tolerated.

Thus, capex related to refurbishment should result in a significant reduction of opex. This makes some sense as a new asset should require less attention than older assets which have deteriorated to some extent.

(ii) Opex from augmentation

There is no doubt that the replacement of a capital item with a larger unit to accommodate an increase in output will increase the asset base. The replaced item will either be relocated to another point in the business replacing another similar item, held in stock for future use, be sold, or scrapped.

When examining the opex implications of an augmentation, the new item will almost invariably be newer than the replaced item if the asset base is to increase. The issue then is: does the opex requirement for an item increased in size (eg a transformer increased from 10 MVA to one of 25 MVA, or a power line increased in diameter for higher current carrying capacity) require a proportionate increase in opex related to the value of the larger item? The answer to this question is in most cases “only marginally at most”.

It costs much the same to monitor a small transformer as it does a larger one, it may take a little longer to replace the oil, but a larger diameter cable or aerial requires the same amount of attendance as a smaller diameter cable or aerial. Newer equipment should require less maintenance than older plant.

[32] As a minimum the IRR to justify replacement of capital assets requires a value of 25-30% before capital will be made available, and even not then in many cases. Capital is often constrained for firms in a competitive environment and used to maintain market share at the expense of reducing opex.

In sum total, opex from augmentation should result in a modest reduction as a result of an augmentation of assets.

(iii) Opex from expansion

Expansion of the network results from increasing the reach of the network. This could come from increasing the number of equipment items at an existing facility or from providing a service to a new area not previously serviced. Expansion increases the asset base.

Opex from expansion will increase with the asset base, although not necessarily proportionately. There are two fundamental expansion options – embedded in the existing network and external to the existing network.

Embedded expansion, whilst requiring additional attendance, allows the opex increase to be marginal. An example of this is where a third transformer is added to an existing facility. In this case the time for attendance is a marginal increase on the cost to service the existing two plant items. Another example is where a new power line is erected adjacent to an existing power line, or even off the existing towers. In this case the opex cost should be measured as a marginal increase in cost and not a proportionate increase.

External expansion is where the new items are remote to the existing network and the opex costs will be proportionate to the increase in asset base.

(iv) The opex implications from this analysis

It is the mix of capex (refurbishment, augmentation, embedded expansion and external expansion that will determine the extent of opex reduction or small opex increase. The greater the refurbishment the greater the opex reduction should be as a proportion of the RAB. Until the regulated business advises what this mix is it is impossible to develop a quantitative view as to the extent that opex should be reduced as a proportion of RAB.

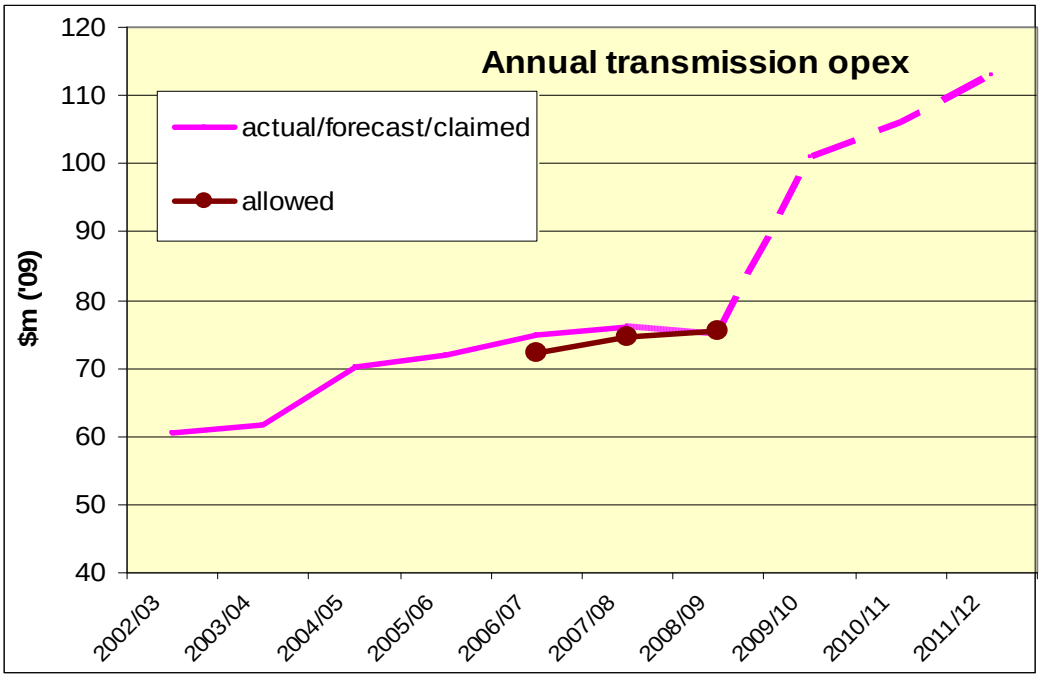
Unfortunately, the graphing of the benchmark for electricity transport businesses shows that the ratio of opex to RAB over time is either constant or at best shows only a marginal fall, clearly implying that the opex granted provisionally by regulators is too high.

To counter this argument for benchmarking between electricity transport businesses, each avers that their networks are sufficiently different to all

the others to warrant a higher level of opex due to the differences in network density, a different load factor, higher/lower demand and higher/lower population density than each of the others.

8.3 Transmission opex

The chart below shows the actual, forecast and claimed capex along with the allowed capex in the AA1 decision.



Source: WP AAI 1 and AAI 2 documents

What immediately stands out is that transmission opex for AA1 almost exactly matched the amounts allowed in the last reset. On this basis, WP transmission has set its own benchmark and only step changes from the current period should be allowed to change the opex allowance for AA2.

Despite this, WP states that it should have an increase in transmission opex of 40% and at section 5.2 of its AAI 2 provides the reasons for its need for increased opex:-

> "…future transmission operating expenditure is principally affected by:
> - the impact of network growth and new connections for load and generation;
> - the on-going impact of previously constrained expenditure; and

- the continuing increase in unit costs, particularly in light of the resources boom in Western Australia."

The aspect of network growth and its impact on opex is addressed in section 8.2 above and the issue of increased unit costs has been addressed in section 4.4 above. WAMEU analysis indicates that neither of these reasons provides much justification for an increase in opex, if at all. Certainly they provide little support for a step change in opex from the current levels.

The aspect of a previously constrained expenditure in the past loses credibility in light of the fact that this was addressed in the AA1 allowance.

It is worth looking at what the increases in opex allowed for in the previous reset. In AAI 1, WP provided the reasoning behind its needs for increased opex above that which it had operated satisfactorily in the past. At section 5.2 it stated:-

"… future transmission operating expenditure will be affected by:

- the impact of previous budget constraints;
- facilitation of market reform;
- facilitating the connection of additional generation capacity; and
- compliance with more onerous safety, health, and environment regulations.

In addition to these factors (which drive operating and capital costs), two cost drivers relating specifically to operating expenditure are:

- optimisation of maintenance expenditure; and
- insurance."

This shows that the allowance in AA1 provided for the previous budget constraints, for facilitating market reform, managing new compliance requirements and optimizing of opex. As these aspects have now been addressed, it might be expected that less opex would be required as the three latter issues have now been accommodated.

WP has not identified what step changes have occurred which would justify an increase in transmission opex, considering that WP has set its own benchmark by dint of its own performance over AA1.

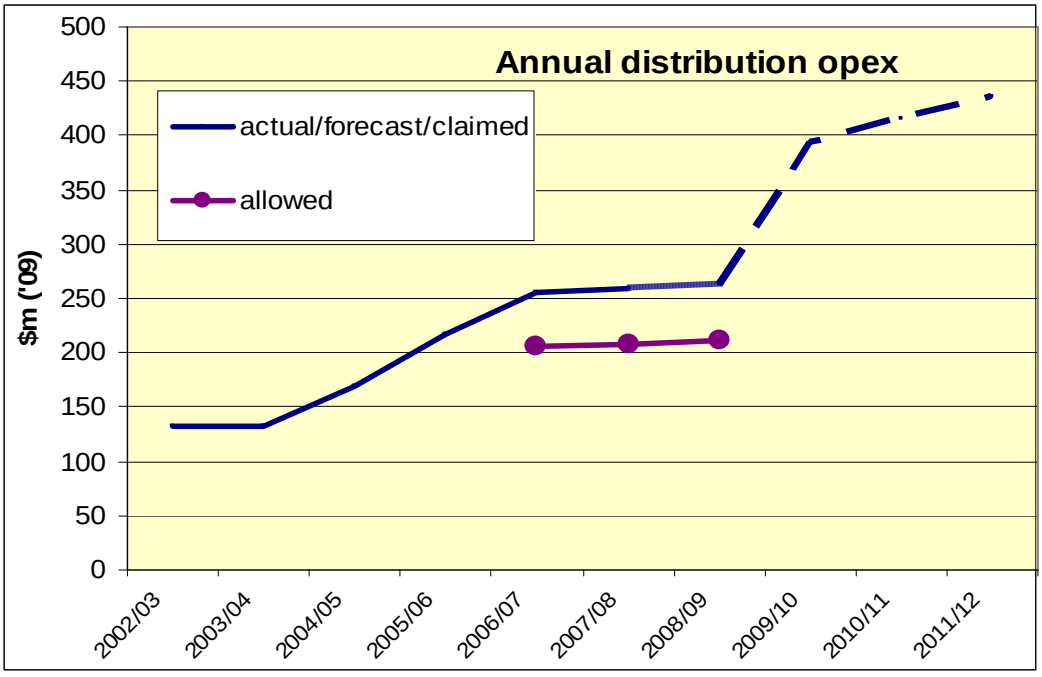
The bulk of WP arguments for increased opex lies with its assumption that opex increases with RAB, and to a lesser extent that its augmentation program increases opex. As noted in section 8.2, just replacing an

equipment item with a larger one has, at most, a very marginal increased need for opex.

Overall, WP provides little substantiation for its claimed increase in opex and the fact that its opex is quite clearly higher than external benchmarks and its own benchmarking for AA1, gives valid reasons not to increase opex from the current AA1 levels.

8.4 Distribution opex

The chart below shows the actual, forecast and claimed opex along with the allowed opex in the AA1 decision.



Source: WP AAI 1 and AAI 2 documents

The chart clearly shows that AA1 opex has been constant for the period at about $260m pa. WP has incurred opex in excess of its allowed opex by some $50m pa. It seeks an increase to an average amount of ~$415m pa, a step increase from actual opex of 60% and a step increase doubling the AA1 allowance.

It is apparent that the setting of the allowed opex was related to the actual opex WP distribution incurred in 2005/05 increased by nearly 25% to accommodate the expected increased costs WP justified for AA1. This

was also an opex increase of 55% above the two years prior to the benchmark year of 04/05. It is interesting to note that the allowed opex was close to actual opex in 05/06 being the last year before AA1. However, during AA1, opex costs were quite constant at ~$260m.

WP attempts to substantiate its increase from current levels to the new AA2 at section 4.2 of its AAI 2 document. It states:-

> "…there are four principal drivers of increased investment from historic levels. These are:
> - the unprecedented growth in electricity demand and the connection of additional generation capacity and new loads;
> - the on-going impact of previously constrained expenditure;
> - more onerous safety, health, and environmental regulations; and
> - the continuing increase in unit costs, particularly in light of the resources boom in Western Australia."

As with transmission opex, the aspect of network growth and its impact on opex is addressed in section 8.2 above and the issue of increased unit costs has been addressed in section 4.4 above. WAMEU analysis indicates that neither of these reasons provides much justification for an increase in opex, if at all. Certainly they provide little support for a step change in opex from the current levels.

The aspects of a previously constrained expenditure in the past and more onerous compliance costs loses credibility in light of the fact that both of these issues were addressed in the AA1 allowance.

It is worth looking at what the increases in opex allowed for in the previous reset. In AAI 1, WP provided the reasoning behind its needs for increased opex above that which it had operated satisfactorily in the past. At section 4.2 it stated:-

> **"Drivers for increased distribution operating expenditure**
> In relation to distribution operating expenditure, Western Power has identified ten principal drivers for increases in the forthcoming access arrangement period:
> 1. **Impacts of previous budget constraints** – leading to an unsustainable level of maintenance backlog.
> 2. **Compliance with health, safety and environmental obligations** – particularly relating to the need for additional network inspections and associated follow-up maintenance work to meet prescribed maintenance standards.

3. **Reliability** – additional expenditure to meet Western Power's service standard benchmarks in relation to SAIDI. Network maintenance programs have been developed to facilitate the achievement of the significant reductions in interruptions required to meet the proposed reliability targets.
4. **Whole of life efficiencies** - improved preventative maintenance programs have been introduced to achieve an optimal balance between maintenance and capital expenditure. These programs are expected to allow Western Power to extend the operational lives of some assets whilst minimising service interruptions and corrective maintenance costs, thus leading to a reduction in overall lifecycle costs.
5. **Increasing Asset Base** - additional operating expenditure will arise as a result of the growth in distribution network assets under the company's capital expenditure program.
6. **Increasing Resource Costs** - increases in average unit costs for maintenance are expected, due to competition for resources and contractors.
7. **Metering services** – metering inspections will increase in line with the projected increase in customer connections. In addition, installation and data management costs are expected to increase, as increasing numbers of customers request interval meters.
8. **Call centre costs** – historically, Western Power Corporation's retail business provided a fault call handling service during business hours but did not charge the network business for this service. However, a formal contract for provision of this service has now been established with Synergy.
9. **Market reform** – increases in operating expenditure are expected as a result of the new regulatory and market environment.
10. **Insurance** - additional insurance costs are expected as a result of a tightening of the market."

When it is considered that many of the drivers quoted as causing an increase in AA2 distribution opex were addressed in the opex increase in AA1, the WP argument that it is entitled to more opex for the same reasons cannot be substantiated. It poses the question – how often can the same reasons be used reset after reset, when allowances have already been made previously and paid for by consumers.

In fact, some of the opex increases that were granted for AA1 no longer apply (eg facilitating market reform) and this alone should lead to a reduction in opex.

The observation made for AA1 that opex increases due to an increasing asset base (point 5) really reinforces the WAMEU observation made in section 8.2 above – that just because the asset base increases does not automatically mean that opex should increase.

8.5 Benchmarks

WP provided a listing of opex comparators prepared by PB in AAI 2 appendix 1. This analysis raises a number of observations.

1. It is not clear whether the PB data is based on current actual opex (ie AA1), or whether the PB data reflects the opex amounts for AA2.
2. PB observes that WP is the only electricity transport that carries out both distribution and transmission. This observation only has validity with regard to benchmarks if one of the WP businesses has a lower benchmark and the other higher. In fact in the comparisons WP is almost always consistently higher than their comparators for both transmission and distribution, obviating this as an issue.
3. WP observes that it is difficult to separate where subtransmission lies in the comparisons. This has some validity but as WP is consistently high compared to the others this observation tends to lose credibility
4. WP transmission considers it is unique in relation to its coverage. ElectraNet (SA) and Powerlink (Qld) make the same observations, and probably the long “stringy” ElectraNet faces lower density than WP.
5. WP distribution opines its large opex/RAB is due to a need to catch up, yet WP assets have a similar age profile to similar businesses effectively negating this observation

8.6 Conclusions

WP has made an ambitious ambit bid for a massive increase in opex. It has overspent the allowances granted for AA1 distribution indicating that the allowances might have been low. Transmission opex allowances were replicated by WP.

WP provided a listing of the drivers supporting its increases in opex but upon analysis of these, they are not much different to those applying for AA1, indicating that the allowances for these drivers has already been incorporated. WP opex benchmarks from the AA1 period and the external comparisons indicate that the WP opex claims for AA2 are excessive.

WAMEU considers that ERA should undertake its own comparative analysis of the WP claims for opex, particularly benchmarking WP against AA1. There is little doubt that the ambitious ambit claims made by WP for transmission and distribution opex are too high. There is considerable support that the current levels of opex for transmission (at $75m pa) and distribution (at $260m pa) are appropriate allowances for AA2.

9. Service standards and incentives

WP has proposed a service target incentive scheme (SSAM). The AER has implemented such a scheme for NSPs under its control and the NER clearly considers that such a scheme is to be mandated.

WAMEU supports the concept that service standards improve over time, and agree that an incentive scheme should result in improved standards. This support is predicated on the principle that WP will be incentivised to use some of the benefits it receives from the scheme to earn improved profits from meeting consumer needs.

The downside of such a scheme is where the performance targets are set too low or where averaging allows targets to be achieved without improving services to some customers where the service is substandard. The WAMEU considers that if a business is permitted to have lower service standard targets, then the so-called incentive scheme is an alternative method for rewarding average or substandard performance.

The WAMEU considers that as it is ultimately consumers that underwrite the ability of WP to raise funds for capex and to remain financially viable, it is only reasonable that there be very clear explanations of what funds are required, what they are to achieve, and to have the performance of what the funds are used for to be measured in appropriate ways.

Consumers need to see that performance improves over time and certainly that it does not deteriorate. A SSAM provides consumers with the confidence that their issues are being addressed. What is more, consumers are prepared to pay for enhanced performance.

The SSAM provided by WP incorporates a number of indicators. For distribution it uses:-

> **SAIDI** (System Average Interruption Duration Index) *is more commonly known as "average customer minutes off supply" and is generally reported over a one-year period. It is the total on average interruption duration in minutes per year experienced by customers for both planned and unplanned interruptions.*
> *A SAIDI of 150 minutes means that customers connected to the feeder or supply area being measured experience an average 150 minutes off supply in 12 months.*
> **SAIFI** (System Average Interruption Frequency Index) *is a measure of how often an average customer loses supply during one year.*

A SAIFI of 2 means that the average customers connected to the feeder or supply area being measured on average lost supply twice during the past 12 months.

For transmission the indicators are:

Transmission circuit availability measured as a % of time
System minutes interrupted for the meshed network
System minutes interrupted for the radial network

In its current program, WP offered the following service standards. It is concerning that the actual performance of WP against their targets is not provided, as this provides a better rationale as to where WP has exceeded its performance and where additional effort is required.

WAMEU would like the service standards expanded along similar lines to that used by the ESCoV where the distribution service standards also specifically incorporate performance on the worst performing feeders. To continue a program where the average is rewarded/penalised does little to help consumers suffering from excessively poor performance on specific feeders. The ERA is encouraged to introduce such a feature into the service targets and its accompanying incentive program.

Measure	location	Target			
		Jun 09	Jun 10	Jun 11	Jun 12
Dist SAIDI, (minutes off supply	SWIN	224	225	210	201
	CBD	17.3	38	38	38
	URBAN	179	161	150	142
	Rural short	343	253	233	222
	Rural long	598	599	567	548
Dist SAIFI Frequency of outages	SWIN	2.78	2.44	2.29	2.18
	CBD	0.26	0.24	0.24	0.24
	URBAN	2.51	1.88	1.76	1.67
	Rural short	3.85	3.05	2.83	2.70
	Rural long	4.50	4.89	4.64	4.47
Trans	Cct avail %	98.2	98.0	98.0	98.0
	Meshed system minutes off	7.8	9.3	9.3	9.3
	Radial system minutes off	3.9	1.4	1.4	1.4

Source: WP revised 2007 AAI and 2008 AAI

The changes from the current targets to the new targets show some significant variation, with some improvements and some targets made easier (highlighted). On balance there are a greater number of more challenging targets than those made less challenging based on current levels.

It should be noted that there are significant exclusions from the calculations of the targets, and therefore they do not reflect the actual impact on consumers who suffer regardless of the cause. Of particular note, there is an exclusion of very long outages ("major event days") and planned outages. This tends to skew the performance of WP, making their performance better than what is seen by consumers.

These targets are reinforced by a service standard incentive scheme which appears to be quite low powered, as the penalties are relatively low compared to the revenue streams. It is further de-powered by having a "dead-band" around each target of +/- 10% (except for circuit availability which has a dead band of +/- 0.5%) before any penalty/bonus occurs. The incentive scheme is further de-powered by limiting the penalty/bonus at +/- 20% (except for circuit availability which is limited to +/- 1%) after which there is no penalty/bonus.

Conclusions

The WAMEU supports the approach to setting service performance targets and incentivising the achievement of them. It has concerns at the extent of the dead bands, and recommends that ERA reduce the dead bands by 50% and increases the limits by 100%.

The WAMEU would also like to see the performance standards expanded to specifically include the worst performing feeders so that there is an incentive on WP to address these – consumers on poorly performing feeders pay the same as those on good performing feeders, so there is an expectation that they too should benefit from the regulatory bargain of receiving good service for the money paid**.**

10. Capital contributions and contracted demand

In its proposal, WP makes two major changes to its current practice – addressing the way capital contributions are managed, and adjusting contract demands.

10.1 Capital contributions

The WAMEU has two fundamental issues with the capital contributions policy as proposed by WP.

1. Where an amount is provided by a customer as part of a new connection, WP should not be able to subsequently receive a return on the funds provided.
2. A new consumer connection provides additional funds to WP at the time it commences to use the shared network and thereby increases the revenue WP receives until the next annual tariff adjustment, at which time (under a revenue cap approach) the overall tariffs are reduced by the additional funds received before the tariffs are reset and by the additional contributions expected to be received in the coming year.

The new approach proposed by WP for managing capital contributions appears to address the first issue, but then raises a subsidiary issue as to what is to occur regarding past capital contributions. **The WAMEU strongly is of the view that equity between WP and consumers would lead to the view that WP should not receive a return on any funds provided by a customer whether in the future or in the past.**

The ERA should require WP to exclude from its RAB, any previously included capital contributions provided to it.

The second issue is that the revenue cap approach provides a disincentive for new consumers to connect to the SWIN. If a price cap approach was used, then WP could reduce the capital contribution required by a new customer, by allocating the expected increase in revenue provided by the new customer connecting to the shared network to offset the needed capital contribution.

For example, under a price cap, where the cost for a new connection is (say) $1000 and the contribution the new customer makes for using the

shared network though payment of the tariffs has a net present value of $400, the capital contribution would be reduced to $600 in recognition of the contribution to the costs for the shared network. The network owner is incentivised to encourage new customers to use the shared network and over time, the costs to all consumers reduce.

Under a revenue cap, the added revenue from the new customer joining is socialised to all, as is the contribution to the shared network before the new tariffs are instituted. At the very least the additional revenue received for the new connection before the new tariffs are introduced could be offset against the capital contribution.

For example, a new connection is made and the capital contribution is $1000. The added revenue received by WP from contributions to the shared network in the first year might be expected to have a value of $100. Rather than reducing the next year revenue by $100 (as is required under a revenue cap) the unplanned additional revenue acquired by WP of $100 could be incorporated into a discount for the capital contribution.

The WAMEU recommends that the ERA investigate such a variation to the WP capital contribution policy as a partial incentive to encourage new connections to the SWIN and which will provide a benefit to all connected in the long term.

The WAMEU notes that under the Code, a new connector can seek arbitration if it considers WP is being unreasonable in the application of capital contributions as a capital contribution is essentially a non reference service.

10.2 Adjustment of contract demand

WP proposes that any unused contract demand can be arbitrarily resumed by WP, presumably for allocation to other users. This appears to be a “use it or lose it” approach to be mandated by WP and exercised in a unilateral fashion.

The logic behind the approach to “retrieve” unused contract demand might appear to have some merit on the surface, as it allows the use of unused capacity in the network which otherwise would necessitate augmentation to accommodate new demand and therefore its exercise has the potential to limit unnecessary augmentation of the network.

However, the consumer that has had its contract demand arbitrarily reduced would point out that it has been paying for the full contract

demand prior to a WP arbitrary decision and might be prepared to continue to pay for it. If WP continued with its approach, WP could well be removing a right to capacity (and is prepared to pay for) that the consumer considers it might need in the future.

If WP arbitrarily reduces the contract demand, and allocates it to another party, then the initial consumer might then be put in the position to have to pay augmentation charges in the future for reinstatement of its original demand.

The WAMEU considers that there is an acceptable and equitable middle ground for WP acquiring unused capacity that can be used elsewhere.

If WP identifies that there is unused contract capacity that a consumer is paying for but is not using and WP wants to acquire the unused capacity, WP and the consumer can negotiate an acceptable solution. Such a solution might be an agreement to reduce the contract demand to a level agreed, and for WP to reimburse the consumer for the excess demand charges levied for the (say) three previous years. In this way, there is a transfer of benefit from the consumer to WP for payment of a consideration, providing legal certainty for the acquisition of the unused excess in demand capacity.

Should the consumer approach WP for a reduction in its contract demand, then WP would allow for this to occur at the next billing cycle.

11. Tariff structure

As a result of significant work by consumers in the development of the new Electricity Rules for transmission and distribution, regulators are now required to ensure that the tariffs developed by both TNSPs and DNSPs are to be more reflective of the costs related to the provision of the service. This is clearly stated in the NER at clause 6.18.5:

6.18.5 Pricing principles

(a) For each *tariff class*, the revenue expected to be recovered should lie on or between:
  (1) an upper bound representing the stand alone cost of serving the customers who belong to that class; and
  (2) a lower bound representing the avoidable cost of not serving those customers.

(b) A tariff, and if it consists of 2 or more *charging parameters*, each *charging parameter* for a *tariff class*:
  (1) must take into account the long run marginal cost for the service or, in the case of a *charging parameter*, for the element of the service to which the *charging parameter* relates; and
  (2) must be determined having regard to:
    (i) transaction costs associated with the tariff or each *charging parameter*; and
    (ii) whether customers of the relevant *tariff class* are able or likely to respond to price signals.

(c) If, however, as a result of the operation of paragraph (b), the *Distribution Network Service Provider* may not recover the expected revenue, the provider must adjust its tariffs so as to ensure recovery of expected revenue with minimum distortion to efficient patterns of consumption.

The ERA requires that WP provide its proposed tariff setting principles – these principles will convert the allowed revenue resulting from the regulatory review by ERA into specific tariffs. The ERA must review these principles to ensure that the tariffs developed are as close to possible to cost reflective and do not significantly over or under recover from any specific customer class. In this regard, it is noted that many tariffs allow WP to recover revenue based on consumption of electricity.

The WAMEU notes that the WP pricing principles aim to:-

- Be as cost reflective as is reasonable to reflect the network user's utilisation of the network including use of dedicated assets;
- Promote efficient use of the network through appropriate price signalling;
- Maintain price stability and certainty to enable network users to make informed investment decisions;
- Be as simple and straightforward as is reasonable taking into account other objectives; and
- Avoid cross subsidy between different user groups. From an economic efficiency perspective this requires that the reference tariff be between the incremental cost of supply and the stand-alone cost of supply.

The WAMEU fully supports such aspirations in tariff development. As WP is to operate under a revenue cap its incentive to manipulate tariffs is significantly reduced – under a price cap regime there is a very strong incentive to set rates in such a way that maximises revenue which is essentially unearned. Regulators are not able to retrospectively "claw back" such unearned revenue.

However, good regulatory practice does require the regulator to ensure that not only does the NSP prepare its pricing principles and methods that is expected to provide the targeted outcomes for tariff setting, but that the proposed methodology actual does achieve the expected outcomes. This requires the ERA to undertake some additional testing to be satisfied that the WP approach does result in appropriate tariffs.

Under a revenue cap there has been a tendency for regulators to not be involved in tariff setting as the allowed revenue is fixed. Such an approach can lead to the NSP not developing tariffs which are cost reflective, and as a result the pricing signals that tariffs are intended to provide can be muted or even counterproductive.

It is generally acknowledged that the cost of providing network services is predominantly driven by the maximum demand at each connection point and the location (relative to generation) of the connection point. Because of this the most useful approach to tariff setting is based on demand. WP appears to have set its tariffs based on demand where there is the capacity to measure demand at the connection point.

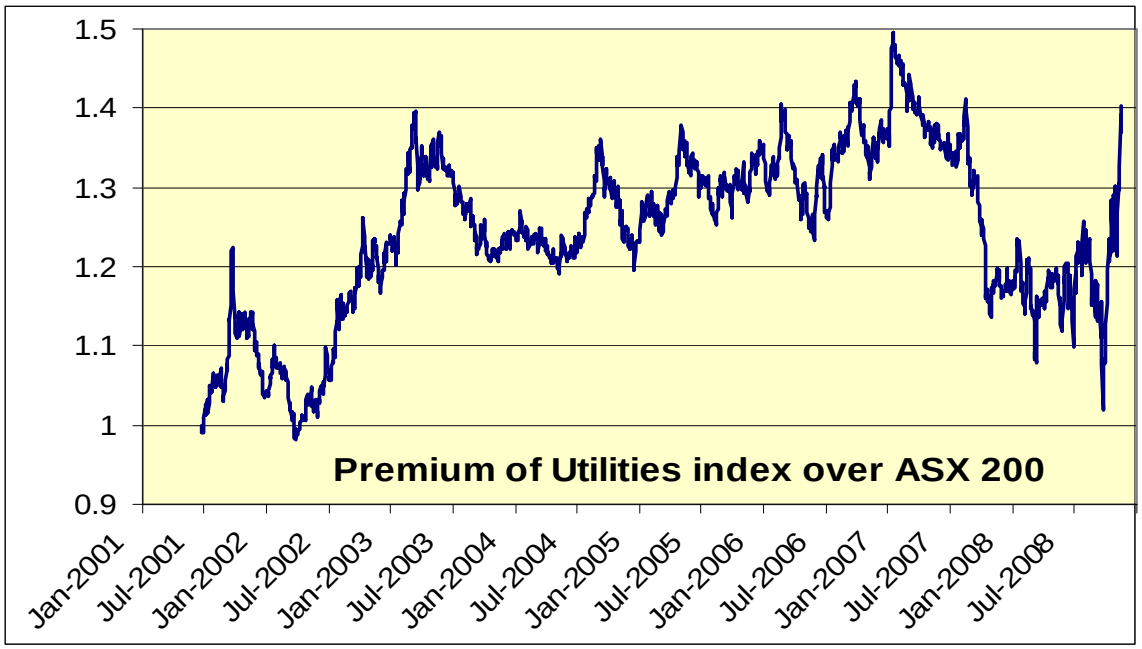
For small consumers the metering arrangements commonly use accumulation meters rather than demand metering (such as "smart meters") and therefore tariffs are perforce based on consumption. This immediately introduces errors and therefore the ability to distort the

amount of revenue recovered from accumulation metered points. It is therefore recommended that the ERA carryout testing of the consumption based tariffs to ensure that the expected recovery from these accumulation metered connection points really do recover the appropriate revenue share. The reason for this need is a direct result of distribution businesses using tariff mechanisms to over recover revenue and to cross subsidise between consumer classes.

Cost reflectivity must be demonstrated by testing the tariffs with actual usage data.

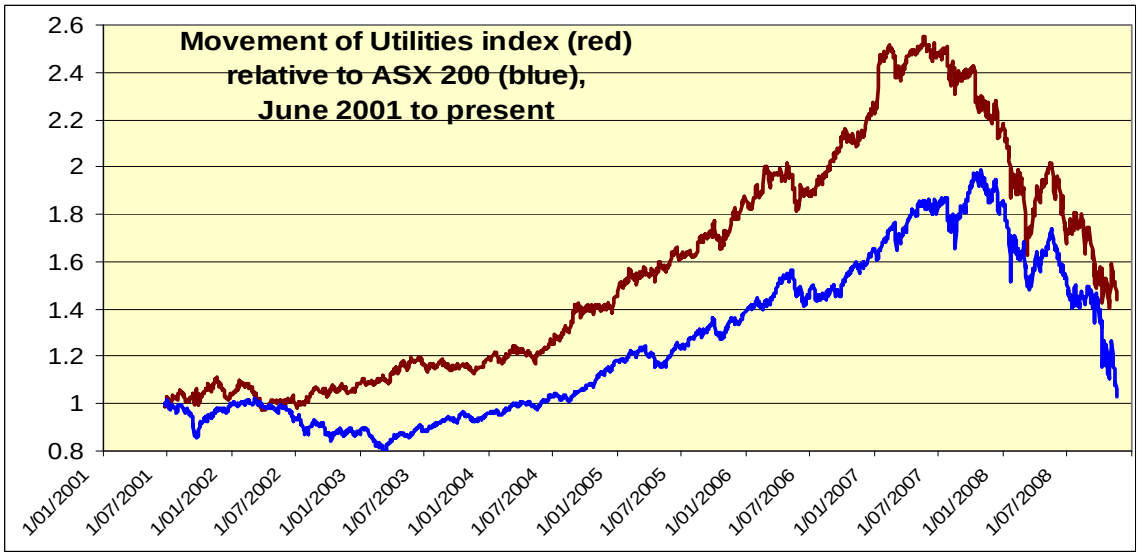
Attachment 1 – Premium of Utilities Index over ASX 200

A review of the long term premium of share prices for Utilities compared to the equivalent index ASX 200.



Source: CommSec website using data from the ASX

The same data is presented showing the actual movement of each index daily referencing values back to the date when the Utilities index was introduced.



Source: CommSec website using data from the ASX

Attachment 2 - Longitudinal comparative data on ASX indexes

Data sourced from Commonwealth Securities Web site

	Sector Beta						Sector div yield						sector gearing D/E %			
	27/ 2/ 06	23/ 8/ 06	30/ 1/ 07	18/ 6/ 07	17/ 1/ 08	4/ 9/ 08	27/ 2/ 06	23/ 8/ 06	30/ 1/ 07	18/ 6/ 07	16/ 1/ 08	4/ 9/ 08	30/ 1/ 07	18/ 6/ 07	16/ 1/ 08	4/ 9/ 08
All ords	**1.08**	**1.04**	**1.02**	**1.05**	**1.08**	**1.04**	**4.3**	**4.3**	**3**	**3.4**	**4.2**	**5.8**	**36**	**37**	**36**	**42**
Utilities	**0.31**	**0.23**	**0.37**	**0.37**	**0.37**	**0.71**	**5.2**	**5**	**4.1**	**5.8**	**8.3**	**8.5**	**102**	**104**	**110**	**52.2**
Consumer discretionary																
Automobiles and components	1.02	0.86		0.96	0.96	1.13	6.2	6.2		5.6	5.1	6.1		55	41	91.4
consumer durables and apparel	1.75	1.39	1.42	1.42	1.42	1.1	5.3	5.2	5.3	4.8	6.3	8.6	44	43	49	50.6
consumer services	0.93	1.19	0.96	0.96	0.96	1.08	4.3	3.9	3.3	3.4	3.9	5.7	38	32	43	38.2
Media	1.51	1.39	1.03	1.03	1.03	0.81	4.5	4.4	3.9	3.8	4.5	7.2	21	22	20	26.7
Retailing	1.18	0.99	0.98	0.98	0.98	1.07	4.6	4.7	3.2	2.9	4.4	5.9	32	32	29.0	29.1
Consumer staples																
Food and drug retailing	0.62	0.64	0.64	0.64	0.64	0.79	3.8	3	3	2.5	3	5.3	75	50	61	50.8
Food beverage and tobacco	0.58	0.51	0.6	0.6	0.6	0.5	4.3	3.9	3.1	2.5	3.8	4.6	46	49	48	54.1
Energy	**0.96**	**1.04**	**1.21**	**1.21**	**1.21**	**1.16**	**3**	**2.8**	**2.8**	**2.4**	**2.3**	**2.2**				
Financials ex property																
Banks	0.86	0.68	0.82	0.82	0.82	0.75	4.3	4.1	4.4	4.3	5.3	6.7				
Diversified financials - resources	1.19	1.16	1.17	1.17	1.17	1.41	3.5	3.7	3.6	3.4	4.6	6.3				
Diversified financials - holdings	1.19	1.16		1.17	1.17	1.41	3.5	3.7	4.6	3.4	4.6	6.3				
Insurance	1.58	1.54	1.44	1.44	1.44	0.98	4.2	4	3	3.7	3.7	4.7				
Property Trusts	**1**	**1.04**	**1**	0.96	0.96	0.88	**6.9**	**6.9**	**3.8**	5.5	8.1	11				
Health Care																
Equipment and services	1.19	1.09	1.01	1.01	1.01	0.76	2.8	3	2.7	2.4	3.2	4.1	7.2	6.9	4.6	7.6
Pharma & Biotech	1.81	1.52		1.45	1.01	0.76	2.3	2.9	2.7	2.4	3.2	4.1	7.2		4.6	
Industrials																
Capital goods	1.11	1.12	1.04	1.04	1.04	1.31	4	4.1	3.6	3.4	4.2	5.4	34	35	47	41.2
Commercial services and supplies	1.11	1.19	1.27	1.27	1.27	1.11	4	3.9	3.4	3.2	4	4.9	28	28	36	37.8
Transportation	0.9	0.99	0.96	0.96	0.96	0.92	4.7	4.9	3.4	3.3	4.5	5.7	40	61	54	55

Info Tech																
Software and services	1.82	1.61	1.34	1.34	1.34	1.03	4.6	4.6	3.4	3.1	3.6	4.6	54	1.4	1.1	1
hardware and equipment	1.15	1.02	0.89	0.89	0.89	1.68	4.4	3.9	2.7	3.3	8.8	16.3	0.7	1.9	6.3	10.3
S'conductor	1.15	1.02	0.89	0.89	0.89	1.68	0	0	0	0			58	58	31	50.9
Materials	**1.39**	**1.15**	**1.22**	**1.22**	**1.22**	**0.94**	**3.1**	**3.2**	**3.1**	**2.8**	**3.7**	**4.4**				
Telecomms	**0.44**	**0.29**	**0.37**	**0.37**	**0.37**	**0.52**	**5.7**	**6.2**	**3**	**3.6**	**6.2**	**7.2**	**15**	**5.3**	**8.8**	**11.1**