Supplementary draft decision

NSW and ACT transmission network revenue cap
EnergyAustralia capex
2004–05 to 2008–09

Date: 2 March 2005

File no: S2004/138

Commissioners:
Samuel
Sylvan
King
Smith
Willett

Contents

Glossary

ABS	Australian Bureau of Statistics
ACCC	Australian Competition and Consumer Commission
AESDR	Annual electricity system development review[1]
AR	Annual revenue
Capex	Capital expenditure
Code	National electricity code
CPI	Consumer Price Index
CRA	Condition and risk assessment
DRP	Draft regulatory principles[2]
EUAA	Energy Users Association of Australia
IPART	Independent Pricing and Regulatory Tribunal
IT	Information technology
MAR	Maximum allowed revenue
Opex	Operating expenditure
PB Associates	Parsons Brinkerhoff Associates
RAB	Regulated asset base
SKM	Sinclair Knight Merz
SRP	Statement of regulatory principles[3]
TLF	Transmission loss factor
TNSP	Transmission network service provider
VM	Value management
WACC	Weighted average cost of capital

1 EnergyAustralia annually produces a document known as the AESDR, which summarises its substation loads and load forecasts.

2 ACCC, *Draft Statement of Principles for the Regulation of Transmission Revenues*, 27 May 1999.

3 ACCC, *Decision statement of principles for the regulation of electricity transmission revenues*, 8 December 2004.

ACCC, *Decision statement of principles for the regulation of electricity transmission revenues – background paper*, 8 December 2004.

Summary

Introduction

EnergyAustralia owns and operates a part of the electricity transmission network in New South Wales (NSW). EnergyAustralia also owns and operates an electricity distribution network in NSW. Currently EnergyAustralia's distribution network is regulated by the Independent Pricing and Regulatory Tribunal of NSW (IPART), and the transmission network is regulated by the Australian Competition and Consumer Commission (ACCC).

On 23 September 2003, EnergyAustralia lodged an application for a revenue cap with the ACCC in respect of its transmission network for the period 1 July 2004–30 June 2009. On 29 October 2004 EnergyAustralia resubmitted the capital expenditure (capex) component of its application in response to the ACCC's new ex ante capex framework, as set out in the statement of regulatory principles (SRP).

This is a supplementary draft decision on EnergyAustralia's revised capex program for the regulatory period of 2004–05 to 2008–09. The other components of the building block model were set out in the ACCC's original draft decision and will be considered when the ACCC finalises it revenue cap decision.

The ACCC is seeking submissions from interested parties on this supplementary draft decision. The closing date for submissions is 24 March 2005.

Should any interested party request that a public forum be held on this draft decision, this will be held on Friday 18 March in Sydney.

A copy of EnergyAustralia's supplementary application, additional information, Parsons Brinkerhoff Associates' (PB Associates) report and submissions are available on the ACCC's website.[4]

Objectives

The ACCC sets maximum revenue that transmission network service providers (TNSP) can recover from customers. Chapter 6 of the National Electricity Code (code) provides a broad set of objectives that the ACCC must aim to achieve when setting revenue caps. The ACCC has set out its method for setting revenue caps in its SRP. In the SRP the ACCC outlined a new approach to reviewing the TNSPs proposed capex, referred to as the ex ante framework.

The ex ante framework involves the ACCC setting a revenue cap based on a firm ex ante capex allowance at the start of the regulatory period to enable the TNSP to decide what investments it will make within the allowance.

4 http://www.accc.gov.au

The ex ante framework provides TNSPs with greater certainty and improves incentives for efficient investment. It also ensures TNSPs have prepared detailed capex forecasts when making submissions to the ACCC, hence providing increased transparency.

The ACCC recognises that large uncertainties may exist and it deals with these uncertainties by using two mechanisms:

- Excluded projects—capex may be excluded from the ex ante capex allowance if it is significant but uncertain and its inclusion would lead to a significant error in the ex ante capex allowance.

  If the excluded capex is triggered in the regulatory period it is proposed that the ACCC will review the individual project and set an allowance for that project. At the end of the five years the depreciated value of the actual capex will be included in the regulatory asset base (RAB), subject to the project complying with the requirements of the code.

  An indicative capex allowance for excluded projects can be made at the start of the regulatory period to avoid price shocks. The ACCC would then undertake the ex ante review of the excluded project and adjust the revenue cap.

- Revenue cap re-openers—TNSPs may need to undertake expenditure during the regulatory period due to completely unforeseen and unexpected events. Some of these events could significantly alter the efficient level of expenditure. In these circumstances, it is proposed that the ACCC can allow the revenue cap to be re-opened during the regulatory period.

  As noted in the SRP, code changes are required to enable an allowance for an excluded project to be included in the revenue cap during the regulatory period and to allow the revenue cap to be re-opened as a result of unforseen events.

Capital governance framework

In July 2004, EnergyAustralia implemented a new capital investment framework by which investment decisions are evaluated and funded. Whilst new projects fall under this framework, most of the projects proposed in the capex application have not been fully subjected to the framework.

The new framework is intended to give more attention to the early stages of planning and ensure the most appropriate option for addressing a network constraint, or other need, is chosen.

The ACCC welcomes EnergyAustralia's new framework as it should, in the future, lead to more efficient investment in its network. However, as EnergyAustralia is still conducting many projects under its older procedures, changes made to these procedures have not materially affected the ACCC in its assessment of the prudence of investment in this decision.

Replacement capex

EnergyAustralia has a capital replacement policy in place to identify assets that need to be replaced. The replacement policy focuses on the age and the condition of the network assets. In preparing its replacement program, EnergyAustralia carries out a condition based assessment of its transmission equipment, prioritises requirements and assigns expected remaining lives to the equipment.

EnergyAustralia proposed $156.3m for its replacement capex, which comprised of $93.90m for the ex ante capex allowance and an estimated $62.40m for excluded projects. However the ACCC considers that EnergyAustralia's proposal was based on the replacement of assets before the assets' condition warranted it. Evidence of this was provided in EnergyAustralia's condition and risk assessment (CRA), which is discussed in section 3.1 and is summarised on page viii of this summary.

Therefore the ACCC's supplementary draft decision is to allow $91.70m for replacement capex, of which $55.00m is for the ex ante capex allowance and $36.70m for exclude projects. This is shown in table 1.

Table 1 Replacement capex

Capex ($m 2004–05)	04–05	05–06	06–07	07–08	08–09	Total
EnergyAustralia's forecast						
Ex ante capex allowance	26.78	22.18	14.98	14.98	14.98	93.90
Excluded capex	0.50	4.40	25.70	22.10	9.60	62.30
Total	27.28	26.58	40.68	37.08	24.58	156.20
ACCC supplementary draft decision						
Ex ante capex allowance	17.08	12.48	5.38	7.78	12.28	55.00
Excluded capex	0.40	1.50	16.40	12.40	6.00	36.70
Indicative excluded allowance	0.40	1.50	16.40	12.40	6.00	36.70
Total capex allowance	17.48	13.98	21.78	20.18	18.28	91.70

Excluded replacement projects

EnergyAustralia propose that the following replacement projects be excluded from the ex ante capex allowance:

- replacement of feeders 908 and 909.
- refurbishment of Ourimbah substation.

Replacement of feeders 908 and 909

It is clear to the ACCC that the replacement of feeders 908 and 909 meets the criteria of an excluded project. Its estimated cost easily exceeds 10 per cent of EnergyAustralia's

proposed ex ante capex allowance. If included in the ex ante capex allowance it could provide a significant error in the allowance.

Also the ACCC considers that there are significant uncertainties surrounding the project that could exacerbate this potential error. These uncertainties are not in relation to whether the replacement project will proceed, rather in relation to the scope and form the project will take.

EnergyAustralia has written to the ACCC informing it that it is about to begin its investigation into the best replacement option. The ACCC considers this to be an excluded project.

EnergyAustralia has written to the ACCC informing it that it is about to begin its investigation into the best replacement option. The ACCC considers this to be an excluded project. The ACCC has included an indicative excluded project allowance for this project for the reasons discussed in section 7.4 of this decision.

The ACCC will adjust this allowance when it undertakes the ex ante review of this excluded project.

Refurbishment of the Ourimbah substation

The ACCC does not believe that the refurbishment of the Ourimbah substation meets the criteria of an excluded project.

Under EnergyAustralia's proposal the Ourimbah substation refurbishment meets the 10 per cent criteria for excluded projects. However, PB Associates advised that the refurbishment of the Ourimbah substation was not justified and was planned about two years ahead of when it would be required. This would defer the project to the fourth or fifth year of this regulatory period.

The deferral of this project results in the proposed expenditure for this regulatory period to decrease as the expenditure would not be required until the final two years of the regulatory period. The remaining expenditure would be outlayed in the beginning of the next regulatory period. With the proposed reduction in expenditure, the capex now does not meet the requirements of the SRP for an excluded project because the expenditure is less than 10 per cent of the ex ante capex allowance.

The ACCC considers delaying this project to be appropriate because a condition assessment of all the assets in the substation has not been undertaken. Also the CRA (discussed below) indicates that the need to replace most of the substation's assets is of low priority.

In assessing EnergyAustralia's proposal, the ACCC considers that the timing of Ourimbah refurbishment has not been justified. Therefore, rather than accept EnergyAustralia's proposal ($25.70m), the supplementary draft decision adopts the lower capex ($10.00m) recommended by PB Associates and includes it in the ex ante capex allowance.

Condition and risk assessment

The ACCC supports PB Associates' recommendation that assets should only be replaced when their condition warrants it. In some cases replacing assets that are still serviceable can be justified, for example when an augmentation passes the regulatory test.

PB Associates considered that EnergyAustralia's CRA matrix was a rigorous method of assessing assets to be replaced. The ACCC considers the CRA process to be a good way to prioritise replacement capex.

The assets that PB Associates recommended replacing in a later regulatory period and that EnergyAustralia proposed to replace this period received a CRA rank of C2 (table 2). This means that there is a possibility of failure and the consequences would be minor. EnergyAustralia, in concluding the consequences to be minor, considered the consequences for safety, the environment, reliability, property damage and liability claims of that failure.

Table 2 EnergyAustralia's risk assessment matrix

		Consequences				
		1	2	3	4	5
	Likelihood	**Insignificant**	**Minor**	**Moderate**	**Major**	**Catastrophic**
A	Almost certain	A1 (H)	A2 (H)	A3 (E)	A4 (E)	A5 (E)
B	Likely	B1 (M)	B2 (H)	B3 (H)	B4 (E)	B5 (E)
C	Possible	C1 (L)	C2 (M)	C3 (H)	C4 (E)	C5 (E)
D	Unlikely	D1 (L)	D2 (L)	D3 (M)	D4 (H)	D5 (E)
E	Rare	E1 (L)	E2 (L)	E3 (M)	E4 (H)	E5 (H)

Risk rating

E–Extreme	Immediate action required
H–High	Senior management attention required
M–Moderate	Management responsibility must be specified
L–Low	Manage by routine procedures

The ACCC considers that EnergyAustralia has not justified that all of its forecast replacement capex is prudent. Therefore the supplementary draft decision excludes assets ranked by the CRA as C2.

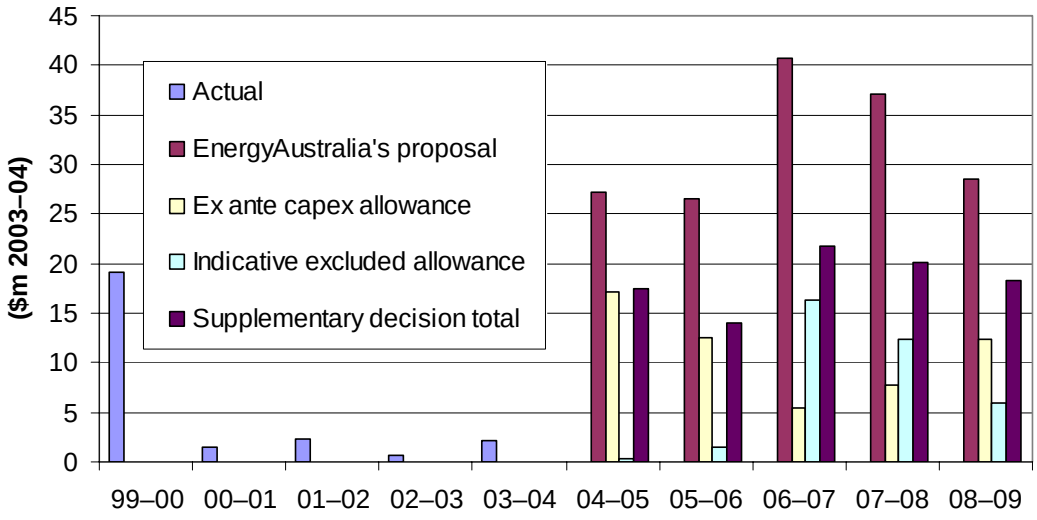
However in considering the appropriate amount of replacement capex, a concern for the ACCC was that without adequate revenue to fund replacement capex network reliability would be at stake. However EnergyAustralia's CRA states that the reliability consequences of a failure of the assets ranked as C2 are likely to be minor.

Another consideration was the large increase being proposed. Over the past regulatory period EnergyAustralia has spent $26m[5] on replacement capex and proposed to spend $160m over this regulatory period. In considering this comparison it should be noted that EnergyAustralia has a larger transmission RAB. However this increased RAB does not explain the 500 per cent increase proposed (figure 1) and the ACCC has concerns regarding EnergyAustralia's ability to deliver such a large replacement program given the external pressures it faces in competing for resources, such as material and labour, from other transmission and distribution companies.

Other issues that go to explaining this increase may include under replacement during the last regulatory period, however that does not justify over-replacement this regulatory period.

The ACCC considers that, given the factors discussed, EnergyAustralia has not justified an increase in replacement capex beyond the level recommended by PB Associates. The ACCC's supplementary draft decision is to allow $92m, which includes an indicative amount of $37m for excluded projects. Including the indicative allowance the ACCC's supplementary draft decision represents a 250 per cent increase above the previous five years.

Figure 1 Replacement capex



Replacement-opex trade off

In submissions received by the ACCC interested parties discussed the relationship between EnergyAustralia's proposed replacement capex program and the amount of operational expenditure (opex) being allowed by the ACCC.

The EUAA believed that the increase in proposed capex should correspond to a reduction in EnergyAustralia's opex allowance. However, EnergyAustralia stated that

5 Inflated to $m 03–04.

its revised replacement program would have negligible effect on its required opex because of the type of assets being replaced.

The ACCC will consider all submissions that address opex and other aspects of the revenue cap determination when considering its final revenue cap decision.

Augmentation capex

Table 4 represents that ACCC's supplementary draft decision in relation to an efficient amount of augmentation capex.

Table 4 Augmentation capex

Capex ($m 2004–05)	04–05	05–06	06–07	07–08	08–09	Total
EnergyAustralia's forecast						
Ex ante capex allowance	19.57	3.90	5.60	7.23	11.68	47.98
Excluded capex	0.20	4.50	17.00	15.70	9.90	47.30
Total	19.77	8.40	22.60	22.93	21.58	95.28
ACCC supplementary draft decision						
Ex ante capex allowance	19.77	7.10	10.44	9.13	12.04	58.48
Excluded capex	0.00	1.20	11.80	13.00	9.70	35.70
Indicative excluded allowance	0.00	0.00	0.00	0.00	0.00	0.00
Total capex allowance	19.77	7.10	10.44	9.13	12.04	58.48

The ACCC has considered the issues raised by EnergyAustralia, PB Associates and interested parties. The following is a summary of its considerations.

Excluded augmentation projects

EnergyAustralia propose that the following projects be excluded from the ex ante capex allowance:

- Major Inner Metropolitan 132kV development
- six customer connections
- Lower Hunter 132kV development
- variation claim for the Haymarket tunnel.

Major Inner Metropolitan 132kV network development

The Major Inner Metropolitan 132 kV development exceeds the 10 per cent of the total capex threshold[6] and has associated uncertainties outside of the control of EnergyAustralia. Hence the ACCC considers it to be an excluded project.

Customer connections

The ACCC considers it appropriate that the party wishing to connect pay the costs of assets dedicated to its connection. Hence the issue is only in relation to the costs associated with augmenting the shared transmission network.

The ACCC considers that proposed connections should be assessed as excluded projects if all of the following criteria are met:

- One of the listed potential customers requires connection to EnergyAustralia's transmission network.
- A regulatory test assessment requires shared network augmentation.
- The shared network augmentation required in the regulatory period is material.
- The shared network augmentation is not already allowed in other augmentation projects.

Lower Hunter 132kV network development

EnergyAustralia propose to augment its 132kV network in the Lower Hunter region to meet load growth. This project depends on the outcome of TransGrid's development in the area. For this reason EnergyAustralia proposed it be an excluded project.

The ACCC considers that the main uncertainty is the outcome of TransGrid's planning in the Lower Hunter area. The ACCC understands that TransGrid has decided on a course of action, which removes a lot of uncertainty. Hence the only remaining issue is the cost estimates, which are not considered accurate.

The ACCC considers that EnergyAustralia should develop a more accurate estimate of the required capex. This estimate will then be included in the final ex ante capex allowance. The ACCC waits for EnergyAustralia's response to this issue.

Until then the ACCC proposes to include the $11.9m in the ex ante capex allowance.

Claim for variation for the Haymarket tunnel

EnergyAustralia has not provided any information about this claim at the time of writing this supplementary draft decision, not even the amount being claimed.

Without any details of this claim or a formal explanation about the legal reasons for withholding these details the ACCC is not be able to account for these costs in this revenue cap. Neither in the ex ante capex allowance or the excluded project list.

---

6 SRP—background paper, op.cit., page 62.

Compliance capex

EnergyAustralia's proposed compliance program comprises projects required to upgrade existing infrastructure to meet code and other legal requirements or to achieve its duty of care requirements.

The ACCC's supplementary draft decision is to accept the EnergyAustralia's proposed program. The ACCC considers that this capex has been justified in order for EnergyAustralia to be able to meet its external and regulatory requirements. Although the review was undertaken at a relatively high level, the magnitude of expenditure did not warrant any more detail than EnergyAustralia provided.

Table 5 represents the ACCC's supplementary draft decision in relation to an efficient amount of compliance capex.

Table 5 Compliance program

Capex ($m 2004–05)	04–05	05–06	06–07	07–08	08–09	Total
EnergyAustralia's forecast						
Ex ante capex allowance	0.82	0.82	0.82	0.82	0.82	4.10
Excluded capex	0.00	0.00	0.00	0.00	0.00	0.00
Total	0.82	0.82	0.82	0.82	0.82	4.10
ACCC supplementary draft decision						
Ex ante capex allowance	0.82	0.82	0.82	0.82	0.82	4.10
Excluded capex	0.00	0.00	0.00	0.00	0.00	0.00
Indicative excluded allowance	0.00	0.00	0.00	0.00	0.00	0.00
Total capex allowance	0.82	0.82	0.82	0.82	0.82	4.10

Non system capex

EnergyAustralia's non-system capex is broken down in to asset classes. It is submitted for the whole of business and, therefore, includes distribution expenditures. EnergyAustralia allocates expenditure to its transmission network by calculating the total expenditure as a percentage of transmission assets against total network assets. That is, 12.4 per cent of its network assets are transmission assets. Hence, 12.4 per cent of its non-system capex is allocated to transmission.

The ACCC considers that EnergyAustralia's non-system capex allocation method raises a concern because it may over or under estimate the efficient level of transmission non-system capex. PB Associates also highlighted its concern regarding the use of the allocation methodology, particularly when considering information technology (IT) expenditure.

The ACCC recognises that this allocation method was used for EnergyAustralia's distribution review. Adopting a different allocation method for the transmission review could allow EnergyAustralia to over or under recover revenue. It could also provide

perverse incentives for EnergyAustralia to reallocate expenditure from distribution to transmission or vice versa. Therefore the ACCC's supplementary draft decision is to adopt EnergyAustralia's proposed allocation method for this regulatory period.

Table 6 represents the ACCC's supplementary draft decision in relation to an efficient amount of non-system capex.

Table 6 Non-system capex

Capex ($m 2004–05)	04–05	05–06	06–07	07–08	08–09	Total
EnergyAustralia's forecast						
Ex ante capex allowance	5.52	5.52	5.52	5.52	5.52	27.60
Excluded capex	0.00	0.00	0.00	0.00	0.00	0.00
Total	5.52	5.52	5.52	5.52	5.52	27.60
ACCC supplementary draft decision						
Ex ante capex allowance	5.52	5.52	5.52	5.52	5.52	27.60
Excluded capex	0.00	0.00	0.00	0.00	0.00	0.00
Indicative excluded allowance	0.00	0.00	0.00	0.00	0.00	0.00
Total capex allowance	5.52	5.52	5.52	5.52	5.52	27.60

Supplementary draft decision

Indexation of the ex ante capex allowance

EnergyAustralia propose that the ex ante capex allowance be dynamically adjusted according to growth in the following Australian Bureau of Statistics (ABS) indices:

- average weekly earnings
- producer price index (materials used in other than house building)
- producer price index (articles produced by manufacturing industries—electrical equipment and appliance manufacturing).

The ACCC has not accepted, in this supplementary draft decision, EnergyAustralia's proposed indexation method. The ACCC considers that the indices proposed are not appropriate indicators of EnergyAustralia's efficient input costs.

The ACCC considers that EnergyAustralia has not demonstrated that there is a problem with the ACCC's current use of the Consumer Price Index (CPI). It also believes that EnergyAustralia has not been able to demonstrate that its proposed ABS indices are better than the ACCC's use of the CPI.

The ACCC also considers that, while using CPI alone has its own set of problems, the extra complexity that these broad indices introduce does not achieve the purposes set out in the SRP[7].

Deliverability

EnergyAustralia believes it is able to manage the limited resources to deliver the full capex estimate it proposed. However PB Associates state that the general increase in capex in the other NEM network businesses has resulted in external pressures on deliverability of EnergyAustralia's capex program.

After reviewing the entire capex program, PB Associates recommended a capex program smaller than that proposed by EnergyAustralia. Its observation about the pressure to deliver capex did not affect its recommendation.

The ACCC considers that there is a high risk that external pressures will slow EnergyAustralia's delivery of the capex program if it were allowed the full amount of capex it proposed. This is less of a concern because this risk is somewhat controlled by the reduction recommended by PB Associates and also by the excluded project regime.

This supplementary draft decision allowed a 28 percent increase upon actual capex from the last regulatory period. In calculating this increase, the ACCC considered that the external pressures to deliver capital would not require a reduction in the allowed capex. However had the ACCC allowed an increase of the order proposed by EnergyAustralia the issue of deliverability would have required further attention.

Historical capex

EnergyAustralia has proposed a large increase in all areas of its capex above its historical levels. The increase can be seen in figure 2 and by comparing table 7 and table 9. Interested parties were concerned that this large increase had not been properly justified.

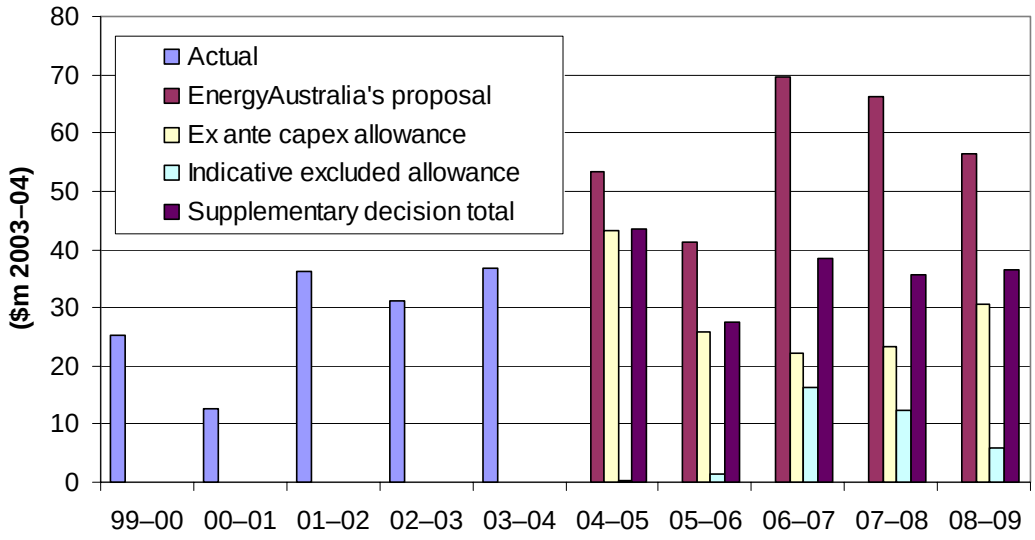
Table 7 Actual capex

Capex ($m 2003–04)	99–00	00–01	01–02	02–03	03–04	Total
Augmentation	0.80	8.12	28.62	27.16	28.10	92.80
Replacement	19.05	1.52	2.32	0.72	2.20	25.79
Other	5.39	2.92	5.16	3.38	4.90	21.75
Total	25.24	12.55	36.09	31.26	36.70	141.85

Some of this increase can be explained by capex required to maintain an increased RAB, due to assets changing classification from distribution to transmission. However this does not completely explain the increase.

7 Ibid.

Figure 2 Total capex ($m 2003–04)



The ACCC's supplementary draft decision allows an ex ante capex allowance of $145m plus an indicative capex allowance of $37m for excluded projects, over the regulatory period. This sum of $182m is a 28 per cent increase over the historical capex of $142m over the previous regulatory period.

The ACCC considers an increase in capex to be appropriate because of increasing demand and asset ages. In addition to this increased capex, the ACCC has allowed excluded projects to be the subject of further review before setting the appropriate capex for that project.

Indicative excluded capex

After considering the total capex the ACCC must set a maximum allowed revenue (MAR) for EnergyAustralia for the regulatory period. As mentioned in the SRP[8] the power to re-open a revenue cap during the regulatory period is limited. Therefore the ACCC will not be able to change EnergyAustralia's revenue cap immediately after undertaking a review of the excluded capex projects.

The supplementary draft decision includes an indicative revenue allowance associated with the excluded projects. This would then be adjusted, subject to a code change being proposed, in the revenue cap decision for the next regulatory period. The adjustment will be based on the ACCC's findings from reviewing each of the excluded projects.

In addition to the ex ante capex allowance ($145.18m) shown in table 8, the ACCC has included $36.7m as an indicative capex allowance for the excluded projects.

The indicative allowance was estimated as follows:

8 SRP—background paper, op.cit., page 143.

- No indicative allowance was made for the Major Inner Metropolitan 132kV network development. This was because the ACCC is uncertain that the project will be required this regulatory period. TransGrid has informed the ACCC that it is uncertain that its 330/132kV substation will be constructed before the next regulatory period.

- The ACCC considers $36.7m is indicative of the costs associated with the replacement of feeders 908/9. The ACCC considers this replacement project has an extremely high probability of proceeding this regulatory period, which is driven by the risks associated with not replacing the feeders.

- No indicative allowance has been made for the customer connections. The ACCC considers that such connections have a high degree of uncertainty of proceeding, scope and cost.

Table 8 Ex ante and excluded capex

Capex ($m 2004–05)	04–05	05–06	06–07	07–08	08–09	Total
Ex ante capex allowance	43.19	25.92	22.16	23.25	30.66	145.18
Total excluded capex	0.40	2.70	28.20	25.40	15.70	72.40
Indicative excluded allowance	0.40	1.50	16.40	12.40	6.00	36.70
Total capex allowance	43.59	27.42	38.56	35.65	36.66	181.88

Total capex

Table 8 shows the total capex that the ACCC has based this supplementary draft revenue cap on. The difference between EnergyAustralia's proposed capex and the supplementary draft decision, as shown in table 9, is a result of the differences in replacement capex and excluded projects.

The capex allowance that the ACCC has proposed for EnergyAustralia is not designed to fund the construction of a list of identified projects. As noted in the SRP background paper (at page 55) the capex allowance does not entail project-specific approval and there is no constraint on TNSPs investing in a different suite of projects to those used in the calculation of the allowance. Similarly, the fact that a project was not considered by the ACCC in the determination of the revenue cap does not necessarily mean that it should not be funded from the capex allowance.

The capex allowance proposed by the ACCC is an amount of money available to EnergyAustralia for it to allocate to projects that it considers are necessary in maintaining the reliability of its network. It is EnergyAustralia's responsibility to allocate the capex allowance efficiently to ensure any risk of failure to its network is minimised.

Table 9 ACCC's draft decision capex

Capex ($m 2004–05)	04–05	05–06	06–07	07–08	08–09	Total
EnergyAustralia proposed capex	53.39	41.32	69.62	66.35	52.50	283.18
ACCC supplementary draft decision capex*	43.59	27.42	38.56	35.65	36.66	181.88

* Includes both the ex ante allowance plus an indicative allowance for excluded projects.

Total revenue

In setting this supplementary draft revenue cap the ACCC has considered all areas of forecast capex. Forecast capex is the only area that has changed from the original draft decision. The other building blocks included in the MAR calculation are the same as the original draft decision[9].

TNSPs are responsible for calculating the transmission prices and notifying their customers by May 15 every year, in accordance with the principles contained in part C of chapter 6 of the code.

The annual revenue that a TNSP recovers through these charges must not exceed the MAR set by the ACCC. Any over or under recoveries must be offset against a TNSP's revenues in the following year.

The ACCC proposes an unsmoothed revenue allowance that increases from $90m in 2004–05 to $110.8m in 2008–09, as shown in table 10. This results in a smooth revenue allowance increasing from $89.97m in 2003–04 to $111.13m in 2008–09 (table 11).

Table 10 EnergyAustralia's unsmoothed annual revenue

($m nominal)	04–05	05–06	06–07	07–08	08–09
Return on capital	55.30	58.60	60.30	63.10	65.60
Return of capital	9.30	10.40	11.50	12.70	14.10
Operating expenses#	22.60	23.10	24.50	25.70	27.00
Estimated taxes payable	5.40	6.50	7.10	7.60	8.30
Value of franking credits	-2.70	-3.30	-3.50	-3.80	-4.20
Unadjusted revenue allowance	90.00	95.30	99.80	105.30	110.80

This opex allowance effects the ACCC's original draft decision (attachment A) and may vary in the final decision.

The supplementary draft decision is based on forecast inflation of 2.44 per cent per annum and applies a smoothing factor of -2.91 per cent. EnergyAustralia must adjust the opening revenue figures annually by actual inflation (the eight weighted capital city

9 ACCC, *Draft decision NSW and ACT Transmission Network Revenue Caps— EnergyAustralia 2004–05 to 2008–09*, 28 April 2004.

CPI). The forecast inflation remains the same as that used in the original draft decision, which is summarised in appendix A.

Table 11 EnergyAustralia's smoothed annual revenue

($m nominal)	03–04[1]	04–05	05–06	06–07	07–08	08–09
Smooth annual revenue (AR)	78.08	89.97	94.84	99.99	105.41	111.13
Smooth AR (reduced RAB by $90.4m)[3]	78.08	79.63	84.48	89.61	95.07	100.85

1. Final year of 1999–2004 revenue cap decision
2. $78.08 is not the result of the same RAB being reviewed in this regulatory period. $90.4m of EnergyAustralia's distribution were deemed to be transmission asset from 2004–05.
3. This illustrates the AR if the $90.4m of assets were not deemed to be transmission assets.

This revenue cap covers EnergyAustralia's transmission services defined by the code to be regulated by the ACCC.

The revenue increase over the regulatory period consists of:

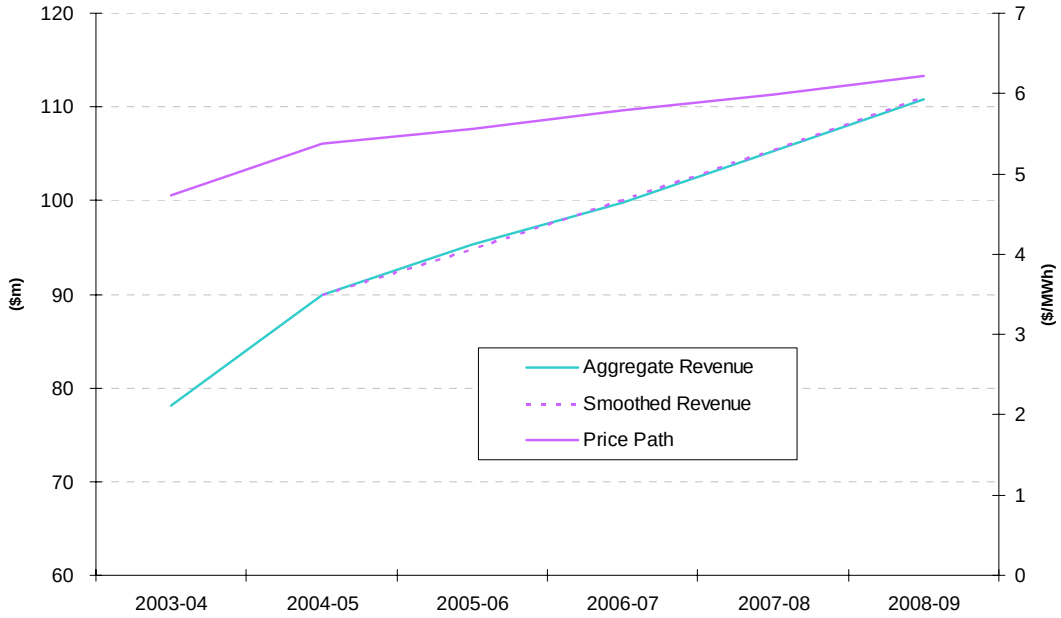
- an initial increase of about 15.2 per cent (nominal) in the first year; mainly as a result of increases in the asset base from assets moving from distribution to transmission, which accounts for the majority of the increase between 2003–04 and 2004–05. In fact, excluding these assets from the asset base the first year increase would only be 2 per cent (nominal)

- a subsequent increase of around 5.4 per cent per annum (nominal) on average during the remainder of the regulatory period (mainly as a result of the large capex program the ACCC has provisionally adopted while developing an ex ante capex framework for the final decision).

Figure 3 compares the revenue proposed by EnergyAustralia in its application with that allowed by this draft decision (both smoothed and unsmoothed).[10]

10 The 2003–04 revenue of $78.08m is based on a RAB that excludes assets transferred to EnergyAustralia's opening RAB for 2004–05.

Figure 3 Revenue comparison 2003–04 to 2008–09 ($m nominal)



Impact on transmission charges

Figure 3 shows the resulting price path of this draft decision over the regulatory period. The indicative 2004–05 price path represents a 13.5 per cent increase over 2003–04, which is largely the result of distribution assets being deemed to be transmission. The average annual increase over the subsequent years is nominally 3.75 per cent or about 1.3 per cent in real terms.

1 Introduction

The ACCC is investigating how much revenue EnergyAustralia requires to provide non-contestable transmission services to NSW customers. At the end of this review the ACCC will set a revenue cap that EnergyAustralia must adhere to when charging customers for transmission services.

The ACCC's powers to set revenue caps for TNSPs are provided in the code, which requires revenue caps to apply for periods no shorter than five years. The previous revenue cap[11] that the ACCC set for EnergyAustralia was for the period 1 July 1999 to 30 June 2004. This draft decision applies for the five year period 1 July 2004 to 30 June 2009.

The code provides a broad set of objectives that the ACCC must aim to achieve when setting revenue caps. However it does not provide details about how the ACCC should design and apply revenue caps. Given this, the ACCC has stated the principles it will apply when setting revenue caps to provide more certainty about how it would undertake its role. These principles are known as the regulatory principles.

The remainder of this chapter discusses the:

- objectives of a revenue cap
- regulatory principles
- consultation process to date
- future process
- structure of this report.

1.1 Objectives

In setting revenue caps for TNSPs the ACCC is asked to set maximum revenues that the TNSP can recover by charging customers. In undertaking this responsibility the ACCC is required by the code to:

- try to achieve the objectives set out in clause 6.2.1
- apply the principles set out in clause 6.2.2
- apply the form of regulation set out in clause 6.2.3.

11 ACCC, *Decision NSW and ACT Transmission Network Revenue Caps 1999–00 to 2003–04*, 25 January 2000.

These responsibilities can present competing objectives for the ACCC to achieve and hence setting an appropriate revenue cap can be a challenging process.

When setting a revenue cap, the ACCC values the building blocks (inputs) required to provide the service (the output). These building blocks typically include new capex, maintaining existing capital, opex, etc. This process of input valuation effectively looks at the efficient costs of running the business to determine appropriate revenue to recover from customers.

This supplementary draft decision relates to EnergyAustralia's capex, which is a key building block that will be used to determine a final revenue cap.

The ACCC does not attempt to approve a list of capex projects that the TNSP can undertake. Rather it sets a revenue cap on the basis of a set of forecast costs which will be refined as time passes. This is what the code requires—that is, setting a revenue cap on a prospective basis.[12]

This supplementary draft decision examines the capex building block to determine the appropriate amount of revenue that EnergyAustralia should be able to recover from customer charges. The revenue cap set in this supplementary draft decision uses estimates for the remaining building blocks from the ACCC's original draft decision of 28 April 2004. A summary of the original draft decision is in appendix A. The ACCC's final decision will incorporate the capex and all other components of the building block approach.

1.2 Regulatory principles

On 27 May 1999 the ACCC released its draft statement of regulatory principles. Under those regulatory principles the ACCC has set revenue caps for:

- TransGrid, 25 January 2000
- EnergyAustralia, 25 January 2000
- Snowy Mountains Hydro Electric Authority, 7 February 2001
- Powerlink, 1 November 2002
- ElectraNet SA, 11 December 2002
- SPI PowerNet, 11 December 2002
- Murraylink, 1 October 2002
- Transend Networks, 10 December 2003.

12 sub-clause 6.2.2(b)(2).

After setting revenue caps for all national electricity market (NEM) TNSPs it was appropriate to review the draft regulatory principles (DRP). Therefore the ACCC began the review of its regulatory principles in August 2003 with the release of a discussion paper.[13]

After extensive industry consultation the ACCC released its SRP on 8 December 2004. In reviewing the regulatory principles, the ACCC sought to improve incentives by:

- moving to an ex ante assessment of capex, known as the ex ante framework
- providing a mechanism to assess uncertain but significant capex, known as excluded projects
- allowing the revenue cap to be re-opened if unexpected but material events impact the TNSP, known as revenue cap re-opener events
- improving transparency of TNSP performance
- establishing an efficiency carry forward mechanism and limited pass-through mechanism for opex.

The following summarises the regulatory principles in relation to capex, relevant to this supplementary draft decision. For a complete and detailed explanation of the ex ante framework, excluded projects and revenue cap re-opener events interested parties should refer to the SRP.

1.2.1 Ex ante framework

The ex ante framework involves the ACCC setting a revenue cap based on a firm ex ante capex allowance at the start of the regulatory period. This enables the TNSP to decide what investments it will make within this allowance.

The objectives of the ex ante allowance are to give TNSPs certainty and to improve incentives for efficient investment. To achieve these objectives the ex ante allowance needs to be aligned with efficient capex over the period, which in turn requires a critical analysis of a TNSP's forecast capex at the beginning of each regulatory period.

The ex ante allowance will be expressed as a profile of annual capex for the regulatory period. The profile of capex and the opening RAB will be used to determine the TNSP's return of, and return on, its assets over the regulatory period. This information together with other inputs such as opex and the weighted average cost of capital (WACC) will be used to calculate the TNSP's AR for each year of the regulatory period.

At the end of the regulatory period the closing RAB will be set based on the opening RAB and the rolled forward value of the depreciated actual capex. This will be

13 ACCC, *Discussion paper, 2003 review of the draft statement of principles for the regulation of transmission revenues*, 20 August 2003.

regardless of whether the sum of the actual capex is more or less than the sum of the ex ante allowance.

The effect of this arrangement is that if a TNSP spends less (more) than its ex ante capex allowance it benefits (loses) by the amount of the return on, and of, the underspent (overspent) amount. The TNSP would carry the benefit or loss for the regulatory period.

This ensures that TNSPs have prepared detailed capex forecasts when making their initial submission to the ACCC, hence providing increased transparency. More importantly it also gives TNSPs incentives to spend efficiently.

The ex ante allowance relies on capex forecasts, which are inherently uncertain. The ACCC has recognised that large uncertainties may exist and it will deal with the large uncertainties by using two other mechanisms. These are:

- excluded projects
- revenue cap re-opener events.

1.2.2 Excluded projects

Capex may be excluded from the ex ante allowance if it is significant but uncertain. That is capex will be excluded if its inclusion would lead to a significant error in the ex ante allowance.

The key considerations in deciding whether to designate a project as an excluded project is whether including the project's capex in the ex ante allowance would lead to:

- inefficient expenditure
- declining service quality
- excessive windfall gains or losses.

Another consideration is whether capex is double counted across the excluded projects and the ex ante allowance. That is when excluding capex the ACCC will examine whether the drivers of the capex have already been catered for in the ex ante allowance. This should prevent customers paying for the same services twice.

If the excluded capex is triggered in the regulatory period the ACCC would review the individual capex project and set an ex ante allowance for that particular project.

Like a capex project under the ex ante allowance the incentive would be applied for a five year period. The period would commence when the regulatory test assessment for that capex project is complete and the project begins.

At the end of the five years the depreciated value of the actual capex of the excluded project will be included in the RAB, subject to the capex complying with the requirements of the code.

As noted in the SRP, code changes are required to enable an allowance for an excluded project to be included in the revenue cap during the regulatory period.

1.2.3 Revenue cap re-opener events

Another area of uncertainty in capex forecasts is unforseen or unexpected events, which require a TNSP to undertake expenditure. Some of these events could significantly alter the efficient expenditure level. In these circumstances the ACCC will allow the revenue cap to be re-opened during the regulatory control period.

In some circumstances the ACCC would consider passing the cost of the event through without reopening all aspects of the decision. In other cases the ACCC may consider it appropriate to re-open other aspects of the revenue cap.

If such an event occurred the TNSP could apply to the ACCC for it to re-open the revenue cap. There would be no limitation as to the nature of the event that would give rise to the re-opening of the revenue cap. However re-opening the revenue cap will be limited to events:

- materially affecting the TNSP
- beyond the TNSP's control
- not contemplated at the time the revenue cap was set
- where the benefits of re-opening would outweigh the detriment to the TNSP's customers from re-opening.

As noted in the SRP, code changes are required to allow the revenue cap to be re-opened as a result of unforseen events.

1.3 Consultation process

The ACCC has undertaken the following consultation process in considering the appropriate revenue cap for EnergyAustralia.

23 September 2003	EnergyAustralia submitted its revenue cap application (application). The application outlined EnergyAustralia's views on the key elements of the building block components.
30 January 2004	Interested party submissions on the application closed. Six submissions were received and they are available on the ACCC's website.[14]
29 March 2004	GHD's report[15] on the application was placed on the ACCC website and interested parties were asked to make submissions on GHD's report.
9 April 2004	Submissions on GHD's report closed and five submissions were received. The submissions are available on the ACCC's website.
10 March 2004	The ACCC released a discussion paper[16] about how it intended to evaluate capex. This was released as part of the review of its regulatory principles.
20 April 2004	EnergyAustralia agreed, after discussions about the ACCC's review of its regulatory principles, to resubmit its forecast capex considering the ACCC's proposed regulatory principles in relation to capex.
28 April 2004	The ACCC made its original draft decision[17] for EnergyAustralia, excluding the future capex component. For indicative purposes the ACCC used EnergyAustralia's proposed capex, noting that it would be reviewed after EnergyAustralia reviewed its capex forecast in light of the review of regulatory principles.
2 July 2004	Interested party submissions on the draft revenue cap decision closed. Eleven submissions were received and they are available on the ACCC's website.
18 June 2004	The ACCC held a public forum on EnergyAustralia's revenue cap. The presentations made to the public forum and the written submissions that accompanied them are available on the ACCC's website.
29 October 2004	EnergyAustralia submitted its revised capex forecast. Then the ACCC called for interested parties to make submissions on, and engaged PB Associates to review, the forecast proposal.
17 December 2004	The ACCC received PB Associates' report on EnergyAustralia's revised capex forecast. The ACCC called for interested parties to make submissions on PB Associates' report.
14 January 2005	Interested party submissions on EnergyAustralia's revised capex forecast and PB Associates' report closed. Three submissions were received and they are available on the ACCC's website.

14 http://www.accc.gov.au

15 GHD, *Australian Competition and Consumer Commission EnergyAustralia Regulatory Review Capital Expenditure and Asset Base, Operational Expenditure an Service Standards Report*, 29 March 2004.

16 ACCC, *Supplementary discussion paper, review of the draft statement of principles for the regulation of transmission revenues capital expenditure framework*, 10 March 2004.

17 ACCC, *Draft decision NSW and ACT Transmission Network Revenue Caps—EnergyAustralia 2004/05–2008/09*, 28 April 2004.

1.4 Future process

The remainder of the ACCC's consultation and decision making process is as follows.

10 March 2005	Closing date for requests for a public forum on the supplementary draft decision.
18 March 2005	Public forum, if called.
24 March 2005	Closing date for interested party submissions on the supplementary draft decision.
Late April 2005	Final revenue cap decision.

1.5 Structure of this report

The remainder of this draft decision reviews EnergyAustralia's:

- capital governance (chapter 2)
- replacement capex (chapter 3)
- augmentation capex (chapter 4)
- compliance capex (chapter 5)
- non-system capex (chapter 6)
- supplementary draft decision (chapter 7)
- total revenue (chapter 8).

Appendix A summarises the other aspects of the supplementary draft decision in relation to areas such as opex, service standards, and WACC. These areas were explained in the original draft decision[18] made on 28 April 2004.

Submissions in relation to these areas of the revenue cap have already been received and will be considered in finalising the revenue cap decision. If interested parties need to raise new issues in relation to these other areas they are encouraged to do so.

However if interested parties wish to re-state issues that they have already raised they should do so briefly by referring to the relevant part of their previous submission.

Appendix B outlines the excluded projects and the ACCC's proposed trigger events. When these projects are triggered, the ACCC will assess the project by undertaking the process outlined in appendix C.

18 ibid.

2 EnergyAustralia's capital governance

EnergyAustralia has, as of July 2004, implemented a new capital investment framework by which investment decisions are evaluated and funded. Whilst new projects fall under this governance framework, most projects proposed in the capex submission have not been subject to this process, instead following the previous governance regime or only partially following the new.

EnergyAustralia's investment framework in place before June 2004 implemented the following process:

- Constraints are identified and published in the annual electricity system development review (AESDR).

- Once a priority area of development has been identified, EnergyAustralia utilises a value management (VM) process to develop strategies to address the network issues. The VM studies allow a range of network and non-network solutions to be considered and often incorporate a wide network area to ensure a more strategic approach to network augmentations. The estimates in the VM study utilise high level costs which do not include site specific information. From the VM study, several top options are then selected for further development.

- Using the VM studies, the network planning area in conjunction with EnergyAustralia's service provider, Enerserve, develops network augmentation options. Viable demand management options are considered internally in the first instance and further developed through market offers where viable.

- Augmentations are then assessed using the regulatory test to ensure the lowest net present value cost option is selected (for reliability augmentations).

- A business case is drawn up which outlines the costs and benefits of the preferred option which is approved by the relevant manager. This is further developed through detailed engineering and cost estimates.

- Finally, a project is put to the EnergyAustralia board for approval.

EnergyAustralia's governance framework was reviewed by GHD who stated, in its report to the ACCC, that there appeared to be some significant deficiencies. These deficiencies were with respect to the efficiency of the organisation's structure, its service/project delivery systems and its overall asset management planning. This in turn gave the ACCC cause for concern in preparing the draft decision.

The new capital investment framework, as of July 2004, was summarised by PB Associates as implementing the following procedure for project decisions:

- identify the issues where network requirements are defined in terms of constraints, reliability improvements, duty of care obligations (safety, health, environment, regulatory, etc), equipment condition and augmentation for customer connections. In this step of the process the 'needs' are identified and documented to produce an

'Identification of Needs Document'. This is a key document in the project development process which provides the following information

- develop feasible alternative solutions—including appropriate cost estimates
- planning and justification for the selection of the most appropriate option.
- project execution where the selected option is delivered
- operation and evaluation where post implementation reviews may be undertaken to examine the effectiveness of the solution.

The new governance framework is intended to give more attention to the early stages of planning and ensure the most appropriate option for addressing a network constraint, or other need, is chosen. This should ensure increased efficiency and improvements against past practice.

2.1 PB Associates' comments

As part of its review of EnergyAustralia's forward capital expenditure requirements, PB Associates examined EnergyAustralia's internal arrangements to ascertain whether the current governance arrangements in place would deliver the appropriate service levels in a cost-effective manner.

PB Associates noted the particular circumstances of EnergyAustralia's governance systems at the time of the review, especially that the old capital investment framework was still governing the approach being used on many projects in the capital expenditure submission:

> [EnergyAustralia admits that] the majority of the projects proposed in the capital expenditure submission have either not been developed under, or not completely followed, all of the processes required under EA's new investment governance framework. It is apparent to PB Associates that although, under the 'old' framework, EA may well have carried out some, or all, of the necessary steps, in many cases this was informal and (relatively) poorly documented.
>
> Furthermore, PB Associates found there to be a significant variation in the level of detailed information provided for each project.

However, PB Associates were of the view that the governance framework in place to June 2004 was 'broadly typical of a number of distribution network businesses'. PB Associates found that the projects in EnergyAustralia's submission varied greatly in their state of advancement, from pre-option development to construction, and that:

> [This] goes some way to account for the varying levels of project specific information across EA's proposed project portfolio.

EnergyAustralia have formulated guidelines to assist the evaluation of each stage in developing a network project, including asset rating, load forecasting, asset replacement prioritisation, network reliability planning and network design. PB Associates is of the view that these are of a suitable standard:

> PB Associates has either reviewed or discussed practices with EA staff in relation to a number of these documents and believes that all have been developed using sound (and reasonable) engineering and commercial principles.

PB Associates also reviewed EnergyAustralia policy documents regarding procedural matters such as power system planning, asset management and augmentation investment and concluded:

> PB Associates considers that the approaches taken by EA are sound and appropriate and in some cases clearly at an advanced stage.

2.2 Submissions

Of the submissions received, only the Energy Markets Reform Forum (EMRF) made specific reference to EnergyAustralia's governance framework. The EMRF said:

> Whilst PB Associates assessed that EA's new capital governance framework (which was introduced in July 2004) "provides a sound basis for the identification, analysis and development of effective network development ". It should be noted that EA has acknowledged that the majority of the projects proposed have not been developed within all the requirements of the new framework.
>
> That EA has introduced this new governance framework, but has not used it to demonstrate the prudency of the proposed capex program, raises serious concerns with EMRF members. The ACCC must ensure that EA commits to review all of its planned capex within the bounds of this new governance procedure before allowing EA to roll in the capex into the new RAB.

2.3 ACCC considerations

The ACCC has noted the report of PB Associates and its assessment of EnergyAustralia's new capital investment framework. EnergyAustralia is implementing a system which should, in the future, lead to more efficient investment in its network. Positive change may be effected through clearer and broader objectives for network projects, and assessment of performance should be made more transparent by formalisation of certain procedures.

EnergyAustralia is still conducting many projects under its older procedures. Hence the ACCC engaged PB Associates to review the efficiency of the forecast capex to ensure EnergyAustralia's planning is likely to lead to prudent investment decisions. The review of the forecast capex is discussed in chapters 3 to 6 of this supplementary draft decision.

3 Replacement capex

This section discusses EnergyAustralia's proposed replacement capex program, as well as the strategies it uses when developing its proposed program.

PB Associates reviewed EnergyAustralia's replacement strategies and its replacement capex proposal and made recommendations on each project accordingly.

The ACCC's considerations and supplementary draft decision are discussed in sections 3.9 and 3.10.

3.1 Replacement strategies

EnergyAustralia has a capital replacement policy in place to identify assets that need to be replaced. This policy is intended to control the percentage of assets that have an actual service age in excess of the standard regulatory life of its asset class.

EnergyAustralia states that the age profile of its system requires planning of replacement to be based on a combination of two major needs:

- strategic requirements—to ensure overall sustainable age and condition profile over time
- condition based requirements—to ensure that assets which are aged or are poorly performing are identified and replaced.

To ensure that its system age and condition remain within sustainable limits and lifecycle costs are minimised EnergyAustralia's guidelines require:

- no more than 10 per cent of the total asset base (in dollar terms) should exceed the standard asset life
- no more than 10 per cent (in dollar terms) of a single category of assets should exceed the standard asset life
- condition monitoring criteria, wherever possible, for specific classes of assets.

Table 3.1 EnergyAustralia's risk assessment matrix

		Consequences				
		1	2	3	4	5
	Likelihood	**Insignificant**	**Minor**	**Moderate**	**Major**	**Catastrophic**
A	Almost certain	A1 (H)	A2 (H)	A3 (E)	A4 (E)	A5 (E)
B	Likely	B1 (M)	B2 (H)	B3 (H)	B4 (E)	B5 (E)
C	Possible	C1 (L)	C2 (M)	C3 (H)	C4 (E)	C5 (E)
D	Unlikely	D1 (L)	D2 (L)	D3 (M)	D4 (H)	D5 (E)
E	Rare	E1 (L)	E2 (L)	E3 (M)	E4 (H)	E5 (H)

Risk rating	
E—Extreme	Immediate action required
H—High	Senior management attention required
M—Moderate	Management responsibility must be specified
L—Low	Manage by routine procedures

For risk assessment, EnergyAustralia uses a CRA. Under the CRA, a risk rating for operating items of equipment is prepared, divided into three periods and presented on a matrix (table 3.1) showing recommended replacement time envelopes of less than five years, between five and 10 years, and between 10 and 20 years.

In preparing its replacement program, EnergyAustralia carries out a condition based assessment of its transmission equipment, prioritises requirements and assigns expected remaining lives to the equipment.

3.1.1 PB Associates' comments

PB Associates supported EnergyAustralia's strategy of progressing with its condition and risk assessment process for determining the replacement of assets.

However, PB Associates were not convinced that the complexity of cable construction and the cost of repair should be drivers behind the extent to which an asset is permitted to operate beyond its standard economic life.

PB Associates accepted EnergyAustralia's claim that transmission circuits are often of strategically higher importance than distribution cables and that they are undoubtedly more expensive and more time consuming to repair when subject to fault. However, PB Associates consider that the time to repair and the strategic importance is the reason such circuits are planned and constructed with an amount of system redundancy. PB Associates also noted that for some transmission assets, EnergyAustralia's condition and risk assessment has resulted in an expected life shorter than suggested by its regulatory standard asset life.

3.2 Installation of Green Square substation

EnergyAustralia has identified the need to replace Alexandria zone substation with a new substation known as Green Square. EnergyAustralia states that this replacement is required because the Alexandria zone substation is 49 years old and is considered to be at the limit of its acceptable age for network equipment. The Green Square zone substation will form a connection point between EnergyAustralia's distribution and transmission networks.

This is a replacement project, however it does provide additional capacity as the new asset is replacing a distribution asset. The additional capacity will be utilised in the long term to reduce loading on Mascot and Zetland substations, enabling them to supply full load during first contingency outages.

3.2.1 PB Associates' comments

PB Associates identified that EnergyAustralia has worked through alternatives for the Green Square zone substation installation. PB Associates believed that the project appears to be consistent with EnergyAustralia's replacement and augmentation policies, and considers that adequate information was provided for this type of project.

PB Associates did not recommend changing EnergyAustralia's proposed expenditure for this project.

Table 3.2 Green Square substation capex

Capex ($m 2004–05)	04–05	05–06	06–07	07–08	08–09	Total
EnergyAustralia's forecast	11.80	7.20	0.00	0.00	0.00	19.00
PB Associates' recommendation	11.80	7.20	0.00	0.00	0.00	19.00

3.3 Substation equipment and mains replacement

EnergyAustralia's proposed substation replacement program covers the following replacements:

- replacement of substation roofs at Lane Cove and Canterbury
- replacement of six 33kV capacitors
- replacement of twenty-four 33kV capacitors at Canterbury substation
- replacement of eleven 132kV circuit breakers at various locations.

EnergyAustralia states that equipment in this program was identified on the basis of condition via a risk assessment.

3.3.1 PB Associates' comments

PB Associates observed that EnergyAustralia has included a number of assets for replacement with condition assessments of C2, representing a moderate risk, and resulting in an EnergyAustralia estimated remaining life of 10 to 20 years.

PB Associates noted that none of the capacitor banks were risk assessed by EnergyAustralia at a risk rating greater than C2, therefore PB Associates were of the view that it would be appropriate to exclude those items of switchgear from the proposed replacement program.

PB Associates believed that the zone substation roof repairs are warranted and a $2m contingency for substation equipment failure is not unreasonable. It also believed that the underground mains cable replacement work is considered reasonable.

PB Associates noted that the majority of expenditure for overhead mains replacement relates to feeder 830, which has a condition assessment of C2 although it was built in the 1930s. While PB Associates noted the age of the feeder, the condition assessment indicates that the feeder does not need replacing for at least 10 years and, consequently it recommended that it be excluded from the capex for this regulatory period.

PB Associates believed that the unit costs used by EnergyAustralia are reasonable, however in some cases it is unable to assess the absolute costs because either the total number of units is not indicated or some of the unit costs are not available.

PB Associates recommended that the expenditure on substation equipment and mains replacement be reduced to reflect replacement on the basis of conditions assessment as set out in table 3.3.

Table 3.3 Substation equipment and mains replacement capex

Capex ($m 2004–05)	04–05	05–06	06–07	07–08	08–09	Total
EnergyAustralia's forecast	10.80	10.80	10.80	10.80	10.80	54.10
PB Associates' recommendation	3.50	3.50	3.50	3.50	3.50	17.30

3.4 Transformer and reactor replacement

EnergyAustralia's proposed transformer replacement program covers the following replacements:

- two 50MVAr shunt reactors
- two 120MVA 132/33kV transformers
- eight 60 MVA 132/33kV transformers
- two 30MVA 132/33kV transformers
- one 37MVA 132/11kV transformer.

EnergyAustralia states that equipment in this program was identified on the basis of CRA.

3.4.1 PB Associates' comments

In its review of EnergyAustralia's proposed transformer and reactor replacement program, PB Associates discussed each transformer or reactor individually.

PB Associates stated that the condition report for the Chullora reactors indicate severe thermal problems and discharge although the risk tabulation gives a B2 grading. PB Associates believed that it could reasonably be expected that these should be replaced.

No condition report was made available on the Rozelle transformers but these units are ten years past their 50 year standard asset life and PB Associates believed they could reasonably be considered due for replacement. However, PB Associates noted that they were not considered for replacement in the original submission.

Bunnerong North transformers 2 and 4 are both 14 years short of their standard lives although condition reports indicate thermal problems. PB Associates considered that, in the absence of any loading information it could be expected that further investigations and/or refurbishment would be valid options, rather than replacement.

PB Associates stated that the Canterbury transformers numbers 1 to 4, which are seven years short of their standard lives, have condition reports indicating signs of ageing. PB Associates believed that further investigation and/or refurbishment would be valid options.

PB Associates identified that two out of the three Kurri transformers, which are eight years short of their standard lives, are satisfactory for their age. However, the third transformer does show some problems but further investigation and/or refurbishment could be undertaken.

Marrickville transformer number 4 shows signs of high furans, which is an engineering indicator of transformer condition. PB Associates believed that as there is a spare on site and that it might not be unreasonable to expect that it could be removed temporarily for further investigation or refurbishment.

EnergyAustralia did not supply PB Associates with condition details for Tomago transformer number 1. PB Associates identified that transformer number 2 has a shorter life under the risk assessment criteria and it assumed that the transformer is in poor condition but PB Associates did not verify this.

EnergyAustralia did not provide a program for this expenditure; therefore, as shown in table 3.4, PB Associates assumed that the total replacement costs are spread evenly throughout the regulatory period.

PB Associates concluded that the $1.5m allocated for replacement of failed equipment is prudent and based on sound principles. However, it believes that unless there are errors in EnergyAustralia's risk categories or condition assessments were undertaken

well before 2004, not all of the transformers or reactors need to be replaced this regulatory period.

Table 3.4 Transformer and reactor replacement capex

Capex ($m 2004–05)	04–05	05–06	06–07	07–08	08–09	Total
EnergyAustralia's forecast	4.20	4.20	4.20	4.20	4.20	20.80
PB Associates' recommendation	1.80	1.80	1.80	1.80	1.80	9.10

3.5 Relocation of feeders 96A, 96B, 96U, 96W, and 95L

EnergyAustralia states that the relocation/replacement of these feeders is due to the extension of the F3 freeway, which the NSW Roads Transport Authority (RTA) has proposed and is beyond the control of EnergyAustralia. At present, EnergyAustralia states that the length of the feeders to be relocated is unknown because the road design has not yet been completed.

EnergyAustralia did not propose any expenditure for relocation of these feeders.

3.5.1 PB Associates' comments

PB Associates believed that the information provided to it regarding the relocation of these feeders was adequate for the level at which the project has been developed. PB Associates also noted that limited detail on the cost estimates were provided, but some cost data has been derived from competitive quotes.

PB Associates did not propose any expenditure for the relocation of these feeders.

Table 3.5 Relocation of feeders 96A, 96B, 96U, 96W and 95L capex

Capex ($m 2004–05)	04–05	05–06	06–07	07–08	08–09	Total
EnergyAustralia's forecast	0.00	0.00	0.00	0.00	0.00	0.00
PB Associates' recommendation	0.00	0.00	0.00	0.00	0.00	0.00

3.6 Feeders 908/9 replacement

EnergyAustralia has requested that this project is regarded as an excluded project. It states that the driver for this project is the replacement of aged assets. EnergyAustralia explains that feeders 908/9 are both aged and unreliable 132kV gas filled cables located between Bunnerong and Canterbury substations. The cables are 48 years old, have a route length of 15.4km and are EnergyAustralia's oldest cables. EnergyAustralia have identified five major faults since 1990, with repair times varying between 3–12 months.

EnergyAustralia states that these cables form a critical part of the supply to Bunnerong, as well as some capacity between Sydney South supply point and the inner suburbs of Sydney. EnergyAustralia considers that the existing feeder route, which includes 3km within the boundary of Sydney Airport and 800m under traffic lanes in General Holmes Drive, is undesirable in regards to repairing faults due to severe working restrictions.

EnergyAustralia put forward two options that it has considered for the replacement of these feeders. Option 1 is the lowest cost option and involves the installation of new cables between Kurnell and Bunnerong substation. This route includes an underwater crossing of Botany Bay.

EnergyAustralia has two main reasons for excluding this project from the main ex ante cap:

- the value of this project is approximately 15 per cent of the total capital budget
- there is considerable uncertainty over the scope of the project and the magnitude of expenditure. Uncertainties arise from:
  - lack of certainty over whether a submarine crossing is feasible from a community and environmental perspective.
  - uncertainty over the route and installation options associated with a submarine crossing.

3.6.1 PB Associates' comments

PB Associates believed further alternatives could have been identified, with the possibility that other network alternatives are viable. It considered that while the replacement generally aligns with EnergyAustralia's risk assessment and replacement policies, the project could possibly be delayed due to external issues such as consultation. PB Associates also considered the cost estimates to be preliminary and not in any detail, however it did not suggest any alternative costs.

Table 3.6 Feeder 908/9 replacement capex

Capex ($m 2004–05)	04–05	05–06	06–07	07–08	08–09	Total
EnergyAustralia's forecast	0.40	1.50	16.40	12.40	6.00	36.70
PB Associates' recommendation	0.40	1.50	16.40	12.40	6.00	36.70

3.7 Ourimbah substation refurbishment

EnergyAustralia has proposed that the refurbishment of the Ourimbah substation be treated as an excluded project. It considers the driver of this project to be the need to replace ageing assets and increase the rating of the Ourimbah 132kV busbar.

EnergyAustralia states that the Ourimbah substation is 45 years old and contains a substantial amount of aged equipment that is reaching the end of its technical life and will need to be replaced prior to 2010. It believes that while some items of equipment do not need to be replaced for 5–10 years, it is not considered to be a prudent investment to spend a significant amount over the next few years replacing the poor performing equipment and then in 5–10 years rebuild the entire substation which would involve replacing both old and new equipment.

The replacement of Ourimbah is also a key component of EnergyAustralia's strategy to keep the level of its transmission assets exceeding the standard equipment life to less than 10 per cent because the substation contains some of its oldest transmission assets.

EnergyAustralia also considers there will be potential loading issues at Ourimbah in the next few years relating to both the firm rating of the substation and the rating of the 132kV busbars.

EnergyAustralia, with the assistance of Sinclair Knight Merz (SKM), identified various options to replace and uprate Ourimbah. It has based its cost estimates on SKM's option 2, which is a staged rebuild of the existing site.

EnergyAustralia states two main reasons for this project to be treated as an excluded project:

- the value of this project exceeds 10 per cent of the total capital budget
- there is considerable uncertainty over the scope of the project and the magnitude of the expenditure.

3.7.1 PB Associates' comments

PB Associates considered that it may be possible to achieve economies of scale for major plant items such as transformers where the $/MV cost reduces significantly. However, despite there being the prospect of these cost advantages, on the basis of the forecast load of 157MV in 2013, it is less than clear to PB Associates how the overall capacity of the proposed 3 x 120MVA transformers included in the proposal can be justified.

PB Associates believed that while some of the options identified by SKM are technically realistic, some of the costs appear to be higher than expected. It also considers that although there may be some items that require replacement within 5 years, significant parts of the substation which have a longer life and replacement should be deferred for those items.

PB Associates stated that completing major refurbishment for Ourimbah during this regulatory period is not presently justified. However, subject to thorough condition assessment of critical items, it does believe that the project planning for refurbishment should commence and work should start towards the end of this regulatory period.

PB Associates also recommended that a regulatory test be undertaken to provide justification for the selection of 132/66kV and 132/33kV 120MVA transformers, as these seem to be oversized for the prospective future loads.

Table 3.7 Ourimbah substation refurbishment capex

Capex ($m 2004–05)	04–05	05–06	06–07	07–08	08–09	Total
EnergyAustralia's forecast	0.10	2.90	9.30	9.70	3.60	25.60
PB Associates' recommendation	0.00	0.00	0.10	2.50	7.00	9.60

3.7.2 Submissions on Ourimbah refurbishment

EnergyAustralia provided a submission on PB Associates' report regarding its findings on Ourimbah substation refurbishment. In EnergyAustralia's view, PB Associates has not completely understood the key drivers or variety of the factors influencing the timing of this project. EnergyAustralia reiterated the main drivers for the project and the preference to replace the substation rather than take a piecemeal approach to maintaining ageing assets. EnergyAustralia believes that taking such an approach would ultimately involve higher costs and higher risks. EnergyAustralia considers the triggers that are driving Ourimbah's refurbishment will require the project to be completed prior to PB Associates suggested timeframe of 2011.

3.8 Submissions

In its submission on EnergyAustralia's application, the EUAA raised concerns regarding the 75 per cent increase in replacement capex, compared to its original application, with no corresponding reduction in opex. The EUAA believes the ACCC must require EnergyAustralia to reconcile its capex and opex statements made or otherwise apply significant reductions to either the replacement capex program or its opex program, or both. The EUAA also suggests that EnergyAustralia is replacing assets before the end of their useful lives and, in doing so, are earning increased revenues at the expense of customers.

In its submission on PB Associates report, EnergyAustralia believes that PB Associates has not understood the significance of the risks it has introduced as a result of the recommended reductions to EnergyAustralia's replacement program.

EnergyAustralia refutes PB Associates conclusion that EnergyAustralia is planning to replace assets earlier than would be suggested by condition information. It believes that this conclusion was reached because individual asset replacement was viewed in isolation with the assumption that all other network assets are in service and in satisfactory condition. EnergyAustralia believes that this view could lead to unacceptable levels of risk for the network in the future.

EnergyAustralia states that it has a number of considerations to take into account when developing its replacement strategy in addition to asset age and condition information. Of primary importance is that replacement is planned strategically to ensure that required levels of replacement expenditure remain at sustainable levels and that work is carried out before equipment fails and has an unacceptable impact on network performance. EnergyAustralia believe that PB Associates has not taken these factors into consideration in its recommendation.

In addition, EnergyAustralia believes that if the replacement program is significantly cut, as proposed by PB Associates, additional opex would be required to cover the continued servicing of deteriorating assets.

Furthermore, EnergyAustralia believes that PB Associates has not fully appreciated EnergyAustralia's risk assessments and PB Associates has reached conclusions which

EnergyAustralia considers to expose its network, staff and customers to unacceptable levels of risk. In its report PB Associates suggested that a risk rating of C2 does not warrant replacement of an asset within five years. EnergyAustralia believes that this position is not appropriate and draws PB Associates attention to the definitions applied to a C2 rated asset. EnergyAustralia does not believe that it is appropriate that risks and consequences involved with a C2 rated asset should be borne over the next five year period.

3.9 ACCC considerations

The ACCC has considered the issues raised by EnergyAustralia, PB Associates and interested parties. The following is a summary of its considerations.

3.9.1 Increase in proposed replacement capex

The ACCC is concerned with the large increase in replacement capex being proposed. Over the past regulatory period EnergyAustralia has spent $26m[19] on replacement capex and proposed to spend $160m over this regulatory period.

In considering this comparison it should be noted that EnergyAustralia has a larger transmission RAB. However this increased RAB does not explain the 500 per cent increase proposed (figure 1) and the ACCC has concerns regarding EnergyAustralia's ability to deliver such a large replacement program given the external pressures it faces in competing for resources, such as material and labour, from other transmission and distribution companies.

Other issues that go to explaining this increase may include under replacement during the last regulatory period. However that does not justify capex on assets that do not need to be replaced this regulatory period.

3.9.2 Excluded projects

EnergyAustralia propose that the following projects be excluded from the ex ante capex allowance:

- replacement of feeders 908 and 909.
- refurbishment of Ourimbah substation.

Feeders 908/9

Section 3.6 discusses EnergyAustralia's proposed capex and PB Associates' recommendation in relation to this project. In the case of feeders 908/9, it is clear to the ACCC that it meets the criteria of an excluded project. Its estimated cost easily exceeds 10 per cent of EnergyAustralia's proposed ex ante capex allowance. If included in the ex ante capex allowance it could provide a significant error in the allowance.

19 Inflated to $m 03–04.

The ACCC also considers that there are significant uncertainties surrounding the project that could exacerbate this potential error. These uncertainties are not in relation to whether the replacement project will proceed, rather in relation to the scope and form the project will take.

Nevertheless the key drivers of the project are the age, condition, performance and type of cable currently in service.

EnergyAustralia has informed the ACCC that these cables are the oldest in service, leaking oil, suffered various recent failures and the type of cable is no longer manufactured. Hence there is increasing probability of a major failure that will not be repairable because EnergyAustralia can not source any replacement lengths of cable.

EnergyAustralia has written to the ACCC informing it that it is about to begin its investigation into the best replacement option. The ACCC considers this to be an excluded project. The ACCC has included an indicative excluded project allowance for this project for the reasons discussed in section 7.4 of this decision.

Ourimbah substation

Section 3.7 discusses EnergyAustralia's proposed capex and PB Associates' recommendation in relation to this project.

The ACCC does not believe that the refurbishment of the Ourimbah substation meets the criteria of an excluded project.

Under EnergyAustralia's proposal the Ourimbah substation refurbishment meets the 10 per cent criteria for excluded projects. However, PB Associates advised that the refurbishment of the Ourimbah substation was not justified and was planned about two years ahead of when it would be required. This would defer the project to the fourth or fifth year of this regulatory period.

The deferral of this project results in the proposed expenditure for this regulatory period to decrease as the expenditure would not be required until the final two years of this regulatory period. The remaining expenditure would be outlayed in the beginning of the next regulatory period. With the proposed reduction in expenditure, the capex now does not meet the requirements of the SRP for an excluded project because the expenditure is less than 10 per cent of the ex ante capex allowance.

The ACCC considers delaying this project to be appropriate because a condition assessment of all the assets in the substation has not been undertaken. Also the CRA (discussed below) indicates that the need to replace most of the substation's assets is of low priority.

In assessing EnergyAustralia's proposal, the ACCC considers that the timing of Ourimbah refurbishment has not been justified. Therefore, rather than accept EnergyAustralia's proposal ($25.60m), the supplementary draft decision adopts the lower capex ($9.6m) recommended by PB Associates and includes it in the ex ante capex allowance.

EnergyAustralia also state that there are several uncertainties surrounding this project that warrant it being classified as an excluded project.

The ACCC considers that there are some uncertainties about the scope of the proposed replacement and the magnitude of the expenditure. It appears that these uncertainties exist because the planning has not been finalised. It also appears that these uncertainties are within the control of EnergyAustralia. That is, EnergyAustralia has forecast where key constraints will occur in the network and is uncertain how it will relieve them.

In making its supplementary draft decision the ACCC considers that the need for replacing the Ourimbah substation has been justified, albeit at a different time to that proposed by EnergyAustralia. Therefore the ACCC will not include the Ourimbah refurbishment in the excluded project category. It will be included in the ex ante allowance at the value recommended by PB Associates.

3.9.3 EnergyAustralia's condition and risk assessment

Section 3.1 discusses EnergyAustralia's capital replacement strategy and CRA and PB Associates' recommendation.

The ACCC considers that assets should only be replaced when their condition warrants it.

EnergyAustralia's main concern was that PB Associates' recommendation may have been based on misunderstandings. In particular that it misunderstood EnergyAustralia's CRA and how EnergyAustralia decides to replace assets based on factors outside this assessment.

The ACCC understands that PB Associates has a good understanding of EnergyAustralia's CRA process. PB Associates stated that it would be reasonable to forecast replacement of assets based on the results of EnergyAustralia's CRA.

Some of the assets EnergyAustralia proposed to replace this regulatory period, PB Associates recommended replacing in a later regulatory period because these assets were given a condition and risk assessment rank of C2. This rank means that there is a possibility that the asset will fail and the consequences of failure are minor. EnergyAustralia, in concluding the consequences to be minor, considered the consequences for safety, the environment, reliability, property damage and liability claims of that failure.

The ACCC believes that EnergyAustralia has not justified all of its proposed replacement capex as prudent. In considering PB Associates recommendation the ACCC was concerned that without adequate replacement capex that network reliability would be at stake. However EnergyAustralia's CRA determined that failure of assets ranked C2 would only have minor reliability consequences.

3.9.4 Replacement capex/opex trade off

In submissions received by the ACCC interested parties discussed the relationship between EnergyAustralia's proposed replacement capex program and the amount of opex being allowed by the ACCC.

The EUAA believes that the increase in proposed capex should correspond to a reduction in EnergyAustralia's opex allowance. However, EnergyAustralia stated that its revised replacement program would have negligible effect on its required opex because of the type of assets being replaced.

The ACCC will consider all submissions that address opex and other aspects of the revenue cap determination when considering its final revenue cap decision.

3.10 Supplementary draft decision

Table 3.9 represents the ACCC's supplementary draft decision in relation to an efficient amount of replacement capex.

The ACCC's forecast of efficient replacement capex is not a list of approved projects. Rather, it is a capex allowance available to EnergyAustralia for it to allocate to projects that it considers are necessary in maintaining the reliability of its network. It is EnergyAustralia's responsibility to allocate the capex allowance efficiently to ensure any risk of failure to its network is minimised.

Therefore the ACCC's supplementary draft decision is to allow $91.70m for replacement capex, of which $55.00m is for the ex ante capex allowance and $36.70m for exclude projects.

Table 3.9 Replacement capex

Capex ($m 2004–05)	04–05	05–06	06–07	07–08	08–09	Total
EnergyAustralia's forecast						
Ex ante capex allowance	26.78	22.18	14.98	14.98	14.98	93.90
Excluded capex	0.50	4.40	25.70	22.10	9.60	62.30
Total	27.28	26.58	40.68	37.08	24.58	156.20
ACCC supplementary draft decision						
Ex ante capex allowance	17.08	12.48	5.38	7.78	12.28	55.00
Excluded capex	0.40	1.50	16.40	12.40	6.00	36.70
Indicative excluded allowance	0.40	1.50	16.40	12.40	6.00	36.70
Capex allowance	17.48	13.98	21.78	20.18	18.28	91.70

4 Augmentation capex

This section discusses EnergyAustralia's proposed augmentation capex program.

PB Associates reviewed EnergyAustralia's proposal and has made recommendations on each project accordingly.

The ACCC's considerations and supplementary draft decision are discussed in sections 4.19 and 4.20.

4.1 Haymarket and Campbell St substation

EnergyAustralia, in conjunction with TransGrid, is upgrading the transmission and distribution networks in the CBD and inner metropolitan areas of Sydney. This capex project was predominantly constructed during the last regulatory period.

The main driver for this upgrade was expected load growth and EnergyAustralia's part of the upgrade includes:

- a new 132kV connection between the new Campbell St zone substation and TransGrid's Haymarket 330/132kV substation
- 132/11kV zone substation in Surry Hills (Campbell St).

EnergyAustralia's expenditure in this regulatory period was to complete its part and commission its new Campbell Street substation and the CBD tunnel. This capex is shown in table 4.1.

4.1.1 PB Associates' comments

PB Associates undertook a minor review of this capex project and noted that, after reviewing limited information, the project costs did not appear unreasonable. Also when commenting about the risk of the project not proceeding, it observed that the project is almost complete.

Table 4.1 shows EnergyAustralia's and PB Associates' recommended forecast capex for this project.

Table 4.1 Haymarket and Campbell St capex

Capex ($m 2004–05)	04–05	05–06	06–07	07–08	08–09	Total
EnergyAustralia's forecast	3.10	0.10	0.00	0.00	0.00	3.20
PB Associates' recommendation	3.10	0.10	0.00	0.00	0.00	3.20

4.2 Beresfield substation

EnergyAustralia states that a substation was required at Beresfield to meet increased demand attributable to residential and industrial growth. EnergyAustralia also states

that the Beresfield substation is required to provide load relief for Kurri and Tomago substation's and to address limitations on the 33kV network supplying the East Maitland and Tarro areas.

The Beresfield substation is currently being built and is expected to be complete in 2005.

4.2.1 PB Associates' comments

PB Associates commented that cost estimates provided by EnergyAustralia did not include supporting detail but this lack of information was because of legal reasons. Overall however, PB Associates concluded that the information EnergyAustralia provided was what they would reasonably expect of a project under construction.

Table 4.2 shows EnergyAustralia's and PB Associates' recommended forecast capex for this project.

Table 4.2 Beresfield substation capex

Capex ($m 2004–05)	04–05	05–06	06–07	07–08	08–09	Total
EnergyAustralia's forecast	12.6	0.0	0.0	0.0	0.0	12.6
PB Associates' recommendation	12.6	0.0	0.0	0.0	0.0	12.6

4.3 Transmission metering

EnergyAustralia proposes to install meters at the boundary of its transmission assets so it will no longer have to rely on transmission loss factors (TLF).

EnergyAustralia, the TNSP, buys transmission network losses from the pool for all customers on its transmission network. These losses are currently estimated using TLFs. However EnergyAustralia states that the published TLFs specifically do not account for all losses, therefore it is not able to recover them from customers or third party retailers.

4.3.1 PB Associates' comments

PB Associates noted that this may be retail expenditure under clause 7.2.2 of the code. However it considers the costs to be prudent for the scope of the work being undertaken.

Table 4.3 shows EnergyAustralia's and PB Associates' recommended forecast capex for this project.

Table 4.3 Transmission metering capex

Capex ($m 2004–05)	04–05	05–06	06–07	07–08	08–09	Total
EnergyAustralia's forecast	2.30	0.00	0.00	0.00	0.00	2.30
PB Associates' recommendation	2.30	0.00	0.00	0.00	0.00	2.30

4.4 New Kurri distribution connections

EnergyAustralia has begun work at its Kurri substation to provide additional connections to the distribution network, which is described as follows:

- a new 33kV feeder bay to provide feeder capacity for Rutherford and Telarah zone substations supplied from Kurri substation
- separate an existing feeder bay into two feeders to split the existing Cessnock and Kurri loads. This will cater for future loading on Cessnock and the proposed Nulkaba zone substation.

EnergyAustralia states that this project is needed to meet its service standards requirements under single contingency outages.

4.4.1 PB Associates' comments

PB Associates commented that that cost estimates provided were adequate.

Table 4.4 shows EnergyAustralia's and PB Associates' recommended forecast capex for this project.

Table 4.4 New Kurri distribution connections capex

Capex ($m 2004–05)	04–05	05–06	06–07	07–08	08–09	Total
EnergyAustralia's forecast	0.57	0.00	0.00	0.00	0.00	0.57
PB Associates' recommendation	0.57	0.00	0.00	0.00	0.00	0.57

4.5 Newcastle Western Corridor 132kV development

This Newcastle Western Corridor 132kV development consists of three projects, one of which is likely to be classified as a transmission project. The element EnergyAustralia forecasts to be a transmission project is the construction of a substation in 2009 at West Wallsend.

EnergyAustralia state that this project is needed because of the major growth expected in the area. EnergyAustralia state that various substations have already experienced loads exceeding their firm rating.

4.5.1 PB Associates' comments

PB Associates concluded that the expenditure proposed by EnergyAustralia appeared to be reasonable. It also considered that there was a high probability that the project would be delayed by one year.Therefore PB Associates recommended a lower amount of expenditure than proposed by EnergyAustralia in this regulatory period (see table 4.5).

Table 4.5 Newcastle Western Corridor 132kV development capex

Capex ($m 2004–05)	04–05	05–06	06–07	07–08	08–09	Total
EnergyAustralia's forecast	0.00	0.10	0.80	2.70	4.90	8.50
PB Associates' recommendation	0.00	0.00	0.50	2.00	4.40	6.90

4.6 Gosford substation capacitor installation

EnergyAustralia proposes to install additional 66kV capacitors at its Gosford substation. It states that it will reduce 132kV network loads and, in turn, defer future major expenditure by 1 year.

EnergyAustralia states that this project is needed to meet its service standards requirements under single contingency outages and to ensure compliance with the system power factors of the code.

4.6.1 PB Associates' comments

PB Associates concluded that the expenditure proposed by EnergyAustralia appeared to be reasonable.

Table 4.6 Gosford substation capacitor installation capex

Capex ($m 2004–05)	04–05	05–06	06–07	07–08	08–09	Total
EnergyAustralia's forecast	0.60	0.00	0.00	0.00	0.00	0.60
PB Associates' recommendation	0.60	0.00	0.00	0.00	0.00	0.60

4.7 Drummoyne substation constraint

EnergyAustralia proposes to extend the existing 11kV switchboard and install a third transformer at its Drummoyne zone substation.

EnergyAustralia states that this is required to meet peak demand at Drummoyne, which it expects to reach firm capacity over the next few years. It also stated that adjoining substations have insufficient capacity to address the increasing loads at Drummoyne.

4.7.1 PB Associates' comments

PB Associates commented that the costs for this project were reasonable and the project was justified.Therefore it recommended accepting the proposed expenditure for this project (see table 4.7).

Table 4.7 Drummoyne substation constraint capex

Capex ($m 2004–05)	04–05	05–06	06–07	07–08	08–09	Total
EnergyAustralia's forecast	0.00	0.80	2.70	0.60	0.00	4.10
PB Associates' recommendation	0.00	0.80	2.70	0.60	0.00	4.10

4.8 New Tomago distribution connections

EnergyAustralia proposes to provide additional distribution connections to its Tomago substation. The proposed capex is as follows:

- a new 33kV feeder between Tomago substation and Nelson Bay zone substation. A new 33kV feeder bay at Tomago substation to provide for the new 33kV feeder
- two new 132kV feeders between Tomago and Nelson Bay to convert Nelson Bay to a 132/11kV zone substation. Two new 132kV feeder bays at Tomago substation to provide for the new feeders.

EnergyAustralia states that this project is to meet minimum reliability requirements under single contingency outages.

4.8.1 PB Associates' comments

PB Associates commented that it would have been more appropriate for detailed project specific information to be provided but overall that the supporting information provided was reasonable. In relation to the costs, PB Associates stated that typical project information was provided.

PB Associates did not recommend amending the proposed capex for this project (see Table 4.8).

Table 4.8 New Tomago distribution connections capex

Capex ($m 2004–05)	04–05	05–06	06–07	07–08	08–09	Total
EnergyAustralia's forecast	0.40	0.00	0.00	0.40	0.60	1.40
PB Associates' recommendation	0.40	0.00	0.00	0.40	0.60	1.40

4.9 Minor augmentation of Inner Metropolitan 132kV network

EnergyAustralia proposes to optimise the load flows in Sydney's inner metropolitan area. It states that optimising the load flows will defer major augmentation of the network.

The proposed capex is as follows:

- replace series reactors on feeders 91L, 91M and 911 in 2005–06
- replace series reactors on feeders 910 and 911 in 2006–07
- replace a shunt reactor at Chullora in 2005–06.[20]

20 EnergyAustralia also proposes to replace two 50MVAr shunt reactors at Chullora with a 100MVAr shunt reactor. EnergyAustralia included this capex in its application as replacement capex.

EnergyAustralia states that this project is to meet minimum reliability requirements under single contingency outages.

4.9.1 PB Associates' comments

PB Associates observed that this project aligns with EnergyAustralia's augmentation policies and that the likely load growth would require some action during this regulatory period.

Overall it did not recommend any amendments to the proposed capex for this project (see table 4.9).

Table 4.9 Minor augmentation of inner metropolitan 132kV network capex

Capex ($m 2004–05)	04–05	05–06	06–07	07–08	08–09	Total
EnergyAustralia's forecast	0.00	2.90	1.70	0.40	0.00	5.00
PB Associates' recommendation	0.00	2.90	1.70	0.40	0.00	5.00

4.10 West Gosford constraint

EnergyAustralia proposes to extend the existing 11kV switchboard and install a third transformer at its West Gosford zone substation.

EnergyAustralia states that this project is possibly required because substations that adjoin West Gosford are expected to exceed firm capacity in the next few years and there is no scope to upgrade these adjoining substations. Hence this project would allow load to be transferred to West Gosford from surrounding substations.

4.10.1 PB Associates' comments

PB Associates consider the project to be justified and the cost estimates to be reasonable given the scope of the project. It also stated that EnergyAustralia had considered a reasonable range of alternatives.

However it considers that there is a higher probability, compared to EnergyAustralia's forecast, that the project will be deferred by one year. Therefore PB Associates recommended reducing the forecast on that basis (see table 4.10).

Table 4.10 West Gosford constraint capex

Capex ($m 2004–05)	04–05	05–06	06–07	07–08	08–09	Total
EnergyAustralia's forecast	0.00	0.00	0.16	1.26	2.46	3.88
PB Associates' recommendation	0.00	0.00	0.00	0.76	2.42	3.18

4.11 Macquarie Park constraint

EnergyAustralia proposes to extend the existing 11kV switchboard, install a third transformer and upgrade the 132kV protection and fibre optic communications at its Macquarie Park zone substation.

EnergyAustralia states that this project is possibly required because substations that adjoin Macquarie Park are expected to exceed firm capacity in the next few years and there is no scope to upgrade these substations. This project would allow load to be transferred to Macquarie Park zone substation from surrounding substations.

4.11.1 PB Associates' comments

PB Associates commented that in the case of the communications and protection capex for this project, there was not enough information to determine whether the cost was reasonable. Overall it noted the project was justified and that the forecast capex was reasonable.

After considering the entire project PB Associates recommended accepting the proposal as a reasonable estimate for the communications and protection capex. EnergyAustralia unintentionally omitted this capex from its proposal, hence PB Associates' recommendation increases the forecast capex proposed by EnergyAustralia for this project (see table 4.11).

Table 4.11 Macquarie Park constraint capex

Capex ($m 2004–05)	04–05	05–06	06–07	07–08	08–09	Total
EnergyAustralia's forecast	0.00	0.00	0.10	1.10	2.60	3.80
PB Associates' recommendation	0.00	0.00	0.20	1.50	3.30	5.00

4.12 Upgrade feeder 926

EnergyAustralia proposes to upgrade the conductors on its feeder 926. Although this feeder is currently a distribution asset, when one of the conductors is upgraded to 132kV it will become, in part, a transmission asset.

EnergyAustralia states that this project is possibly required to meet forecast load growth on Berowra, Pennant Hills and Hornsby zone substations, which is being driven by residential development in the area. The 132kV feeder network that supplies these three substations is expected to be constrained during a feeder outage at times of peak summer loading from 2009. The upgraded feeder will ensure reliability under this single contingency outage.

The major part of this capex project is not expected to occur until the 2008–09 to 2012–13 regulatory period. Therefore EnergyAustralia has included the capex costs associated with the preliminary work and community consultation for the project.

4.12.1 PB Associates' comments

PB Associates commented that the cost estimates would have been better if more details were known. However overall the information and explanation given about this project was reasonable, given the type and size of project.

Overall, PB Associates did not recommend amending the proposed capex for this project (see table 4.12).

Table 4.12 Upgrade feeder 926 capex

Capex ($m 2004–05)	04–05	05–06	06–07	07–08	08–09	Total
EnergyAustralia's forecast	0.00	0.00	0.03	0.23	0.41	0.67
PB Associates' recommendation	0.00	0.00	0.03	0.23	0.41	0.67

4.13 Mid-Southern Central Coast 132kV development

EnergyAustralia proposes to convert Berkley Vale zone substation to 132/11kV operation. It states that this project is possibly required to alleviate network constraints over the next 5–10 years, including the 33kV feeder that supplies Berkley Vale, 11kV switchgear and zone transformers. Also that it will help by deferring major future capex on the Central Coast 132kV network by 2–3 years.

The major part of this capex project is not expected to occur until the 2008–09 to 2012–13 regulatory period. Therefore EnergyAustralia has included the capex costs associated with the preliminary work and community consultation for the project.

4.13.1 PB Associates' comments

PB Associates commented that the information and explanation given about this project was reasonable, given the type and size of project. It also commented that the proposed capex for preliminary work and consultation were satisfactory.

PB Associates did not recommend amending the proposed capex for this project (see table 4.13).

Table 4.13 Mid-southern Central Coast 132kV development capex

Capex ($m 2004–05)	04–05	05–06	06–07	07–08	08–09	Total
EnergyAustralia's forecast	0.00	0.00	0.01	0.14	0.61	0.76
PB Associates' recommendation	0.00	0.00	0.01	0.14	0.61	0.76

4.14 Kurri harmonic filter

EnergyAustralia propose to install a harmonic filter at Kurri. The costs associated with the acquisition and purchase of the filter are uncertain and have not been specified.

EnergyAustralia states that this project may be required because of harmonic problems on feeder 953. This was recently highlighted by problems experienced with interference to Telstra, Redbank power station and Rothbury zone substation.

EnergyAustralia understands that the cause of the problem was the network amplifying low level source harmonics from the Kurri Aluminium Smelter.

4.14.1 PB Associates' comments

PB Associates commented that the information and cost estimates provided for this project were reasonable. In addition it noted that due to the narrow technical nature of this project it was not required to consider other options.

PB Associates did not recommend amending the proposed capex for this project (see table 4.14).

Table 4.14 Kurri harmonic filter capex

Capex ($m 2004–05)	04–05	05–06	06–07	07–08	08–09	Total
EnergyAustralia's forecast	0.00	0.00	0.10	0.40	0.10	0.60
PB Associates' recommendation	0.00	0.00	0.10	0.40	0.10	0.60

4.15 Major Inner Metropolitan 132kV development

EnergyAustralia propose to install phase shifting transformers at Chullora by 2008 and connect to TransGrid's proposed supply point in the Mason Park/Homebush area. This proposal is based on what appears to be least cost at this stage.

EnergyAustralia state that without this project it will not meet its minimum reliability requirements under single contingency outages. More specifically it stated that this project is driven by the following network elements exceeding capacity, under outage conditions, in the next 5 years:

- TransGrid's feeders 41and 42
- feeder's 910 and 911
- five TransGrid transformers at Sydney South.

EnergyAustralia also states that it and TransGrid are undertaking joint planning to consider the best joint solution to these issues. Other options being considered include tuning load flows combined with reinforcement of the 132kV network (see section 4.9), local generation solutions and demand management solutions.

EnergyAustralia considers this project to be suitable for exclusion from the ex ante capex allowance for the following reasons:

- the value of the project is about 15 per cent of the total capex
- there is considerable uncertainty about the scope and amount of capex required.

4.15.1 PB Associates' comments

PB Associates commented that the joint planning with TransGrid made it difficult to clearly understand the project as a whole. Also that comprehensive information was provided but insufficient cost information was available to determine whether the proposed expenditure was reasonable.

PB Associates stated that the scope of the project was uncertain due to it being in the early stages of planning. In regard to the probability of proceeding, PB Associates stated that the project was likely to proceed.

PB Associates did not recommend amending the proposed capex for this project (see table 4.15).

Table 4.15 Major Inner Metropolitan 132kV development capex

Capex ($m 2004–05)	04–05	05–06	06–07	07–08	08–09	Total
EnergyAustralia's forecast	0.00	1.20	11.80	13.00	9.70	35.7
PB Associates' recommendation	0.00	1.20	11.80	13.00	9.70	35.7

4.16 Customer connections

EnergyAustralia has informed the ACCC of six potential customers who have expressed interest in connecting to the transmission network.

EnergyAustralia stated that many approaches by customers do not eventuate into a project. Also some are delayed by many years and the scope frequently changes. Therefore it proposed that these projects be classified as excluded projects and it did not estimate a capital value of connections over the regulatory period.

4.16.1 PB Associates' comments

PB Associates commented that satisfactory background information and adequate justification of why the costs would occur was provided.

PB Associates did not recommend amending the proposed capex for this project (see table 4.16).

Table 4.16 Customer connection capex

Capex ($m 2004–05)	04–05	05–06	06–07	07–08	08–09	Total
EnergyAustralia's forecast	0.00	0.00	0.00	0.00	0.00	0.00
PB Associates' recommendation	0.00	0.00	0.00	0.00	0.00	0.00

4.17 Lower Hunter 132kV development

EnergyAustralia proposes to develop its lower Hunter region 132kV network to meet expected load growth. At this stage the proposed capex, EnergyAustralia's option 1, includes:

- a new 132kV feeder between TransGrid's Newcastle substation and EnergyAustralia's Beresfield substation

- a new feeder between TransGrid's Waratah West substation and EnergyAustralia's Tomago substation

- a new feeder between TransGrid's Waratah West substation and EnergyAustralia's Waratah substation.

EnergyAustralia states that without this project it will not meet its minimum reliability requirements under single contingency outages. More specifically it stated that this project is driven by the following network elements exceeding capacity, under outage conditions, in the next five years:

- feeders 95W, 952, 953 by summer 2005–06

- feeders 950, 95N, 961/1, 96F/1A, 96Z/1 and 96Z/2.

This project is likely to include distribution capex, which would be regulated by IPART. Due to uncertainty about what will actually be constructed it is not possible to determine what capex the code will classify as transmission. EnergyAustralia proposed that 50 per cent of the proposed capex be regulated as transmission capex.

Table 4.18 shows EnergyAustralia's proposed transmission capex for this project.

EnergyAustralia states that, while its option 1 is the basis of its capex forecast, there are three other options that may eventuate. The reason it provides these other options is that TransGrid, the main TNSP in NSW, has not finalised its interrelated capex plans in the area.

EnergyAustralia states that its plan depends on the outcome of TransGrid's capex planning decision. Hence for each of TransGrid's options EnergyAustralia has proposed an option of its own. All options have been summarised in table 4.17.

Table 4.17 Lower Hunter options

Option	TransGrid capex	EnergyAustralia capex
1	Install a second 330/132kV transformer at its Waratah West substation	▪ Install a new 132kV feeder between TransGrid's Newcastle substation and EnergyAustralia's Beresfield substation ▪ Install a new feeder between TransGrid's Waratah West substation and EnergyAustralia's Tomago substation ▪ Install a new feeder between TransGrid's Waratah West substation and EnergyAustralia's Waratah substation.
2	TransGrid provide EnergyAustralia with 132kV supply from its Tomago substation	▪ Install three 132kV feeders from TransGrid's to EnergyAustralia's Tomago substation ▪ Install a 132kV feeder from its Tomago substation to its Beresfield substation ▪ Install a high speed connection arrangement to meet code fault clearance time requirements
3	Install a new 330/132kV substation near the Kurri smelter	▪ Install two feeders from the proposed TransGrid substation to the Kurri smelter ▪ Re-arrange the feeder configuration at either EnergyAustralia's Tomago or Beresfield substation ▪ Some additional augmentation as proposed in option 1 to relieve overload situations
4	Install a new 330/132kV substation at Richmond Vale	▪ Install a feeder from the proposed TransGrid substation to EnergyAustralia's Beresfield substation ▪ Install four new 132kV feeders between the proposed TransGrid substation and EnergyAustralia's feeders 96A, 96B, 96Uand 96W

EnergyAustralia note that some of these other options are affected by its proposed relocation of feeders 96A, 96B, 96U, 96W, and 95L in the Kurri vicinity (see section 3.5).

EnergyAustralia proposed that this project be excluded from the ex ante capex allowance because:

- the amount of 132kV feeder capex required will depend on the outcome of TransGrid's capex planning decisions
- the potential for major cost increases when the final scope is determined.

4.17.1 PB Associates' comments

PB Associates commented that the accuracy of the forecast capex is of low confidence and suggests that the ACCC reconsider the forecast once a preferred course of action is

clearer. Therefore PB Associates did not propose an alternative to EnergyAustralia's forecast given the surrounding uncertainty.

Table 4.18 Lower Hunter 132kV network development capex

Capex ($m 2004–05)	04–05	05–06	06–07	07–08	08–09	Total
EnergyAustralia's forecast	0.20	3.30	5.20	2.70	0.20	11.60
PB Associates' recommendation	0.20	3.30	5.20	2.70	0.20	11.60

4.18 Variation claim for Haymarket tunnel

EnergyAustralia constructed a cable tunnel in Haymarket as part of its CBD upgrade. The construction company EnergyAustralia contracted has lodged a claim that the tunnel costs are in excess of the amount expected by EnergyAustralia.

EnergyAustralia request that this claim be excluded from the ex ante capex allowance because the potential cost is uncertain. EnergyAustralia has undertaken to provide the ACCC with some details about the claim so it can make a decision whether or not the potential cost arising from the claim be excluded.

EnergyAustralia states that information has not been provided because of legal reasons.

4.18.1 PB Associates' comments

PB Associates commented that only nominal information was provided because of commercial sensitivity.

Table 4.19 Variation claim for Haymarket tunnel capex

Capex ($m 2004–05)	04–05	05–06	06–07	07–08	08–09	Total
EnergyAustralia's forecast	0.00	0.00	0.00	0.00	0.00	0.00
PB Associates' recommendation	0.00	0.00	0.00	0.00	0.00	0.00

4.19 ACCC considerations

The ACCC has considered the issues raised by EnergyAustralia, PB Associates and interested parties. The following is a summary of its considerations.

4.19.1 Excluded projects

EnergyAustralia propose that the following augmentation capex projects be excluded from the ex ante capex allowance.

- Major Inner Metropolitan 132kV development
- six customer connections
- Lower Hunter 132kV development

- variation claim for Haymarket tunnel.

Major Inner Metropolitan 132 kV development

The Major Inner Metropolitan 132 kV development exceeds 10 per cent of the total capex and has associated uncertainties outside of the control of EnergyAustralia. Therefore the ACCC considers it to be an excluded project.

Customer connections

The ACCC considers it appropriate that the party wishing to connect should pay the costs of assets dedicated to its connection. Hence EnergyAustralia's capex should only include the costs associated with augmenting the shared transmission network.

The ACCC considers that proposed customer connections should only be treated as excluded projects if all of the following criteria are met:

- the connection to EnergyAustralia's transmission network is going ahead
- a regulatory test assessment requires shared network augmentation
- the shared network augmentation required in the regulatory period is material
- the shared network augmentation is not already allowed in other augmentation projects.

Lower Hunter 132kV network development

EnergyAustralia's proposed capex for the Lower Hunter 132kV network development does not exceed 10 per cent of the ex ante capex allowance, which indicates it should be included in the allowance.

However there are uncertainties outside the control of EnergyAustralia and PB Associates noted that the capex proposed by EnergyAustralia can not be considered accurate. This suggests that the project should be excluded from the ex ante capex allowance.

The ACCC considers that the main uncertainty is the outcome of TransGrid's planning in the Lower Hunter area. The ACCC understands that TransGrid has decided on a course of action, which removes a lot of uncertainty. Therefore the only remaining issue is the cost estimates, which are not considered accurate.

The ACCC considers that in light of this, the Lower Hunter 132kV network development should be included in the ex ante capex allowance. The ACCC proposes to include the $11.9m in the ex ante capex allowance. EnergyAustralia may wish to review its estimates and make a further submission to ensure the best forecasts can be used in the final revenue cap decision.

Claim for variation for the Haymarket tunnel

EnergyAustralia has not provided any information about this claim at the time of writing this supplementary draft decision.

Without details of this claim or further explanation from EnergyAustralia about the reasons for withholding these details the ACCC is not able to account for these costs in this revenue cap.

4.20 Supplementary draft decision

Table 4.20 represents the ACCC's supplementary draft decision in relation to an efficient amount of augmentation capex.

The ACCC's forecast of efficient augmentation capex is not a list of approved projects. Rather, it is an allowance that EnergyAustralia can allocate to projects of its choice and ultimately it is one factor used to determine EnergyAustralia's revenue cap. It is EnergyAustralia's responsibility to ensure that it allocates its expenditure to projects that are required to minimise any risk of failure to its network.

Table 4.20 Augmentation capex

Capex ($m 2004–05)	04–05	05–06	06–07	07–08	08–09	Total
EnergyAustralia's forecast						
Ex ante capex allowance	19.57	3.90	5.60	7.23	11.68	47.98
Excluded capex	0.20	4.50	17.00	15.70	9.90	47.30
Total	19.77	8.40	22.60	22.93	21.58	95.28
ACCC supplementary draft decision						
Ex ante capex allowance	19.77	7.10	10.44	9.13	12.04	58.48
Excluded capex	0.00	1.20	11.80	13.00	9.70	35.70
Indicative excluded allowance	0.00	0.00	0.00	0.00	0.00	0.00
Capex allowance	19.77	7.10	10.44	9.13	12.04	58.48

5 Compliance capex

This section considers EnergyAustralia's proposed compliance capex program.

PB Associates reviewed EnergyAustralia's proposal and its recommendations are discussed in section 5.7.

The ACCC's considerations and supplementary draft decision are discussed in sections 5.8 and 5.9.

EnergyAustralia's proposed compliance program comprises projects required to upgrade existing infrastructure to meet code and other legal requirements or to achieve its duty of care requirements. The following projects proposed by EnergyAustralia will include components of capex attributable to the distribution network. However the forecast capex in its proposal only includes amounts of capex attributable to the transmission network.

5.1 Electronic security

Following recent incidents in its network, EnergyAustralia has started upgrading the physical security of its substations against intrusion. EnergyAustralia had an independent risk assessment completed, which identified the need for enhanced security arrangements in the form of the installation of identification card readers to monitor and regulate entry to EnergyAustralia substation and zone substations.

5.2 Oil PCB

EnergyAustralia state that this project has been mandated by the Environmental Protection Agency and comprises the replacement of contaminated oil in 39 pieces of transmission equipment at Mason Park, Peakhurst, Lane Cove, Mount Colah and Waratah substations.

5.3 Oil containment

EnergyAustralia is undertaking works at Mason Park and Tomago substations to mitigate the risk of polluting storm water and waterways with transformer and switchgear oil. EnergyAustralia propose the works to involve the construction of suitable bunding at both sites and the installation of appropriate oil separation.

5.4 Fire stopping and internal fire doors

Following extensive risk assessments undertaken by independent consulting engineers, EnergyAustralia found it necessary to install positive means to stop fire penetration within substations.

EnergyAustralia proposes this program will involve fire rated internal doors and other measures to ensure that fire is prevented from moving through substations. There are 24 substations classified as transmission assets for regulatory purposes.

EnergyAustralia claim that there will be additional costs associated with this program to provide security personnel to ensure no unauthorised access while the work is being carried out, and the requirement for safety supervisors.

5.5 Water crossing

EnergyAustralia have had a number of recent events involving watercraft colliding with overhead water crossings and damage to live cables. A condition assessment was undertaken of the signage, which revealed that signage has deteriorated and must be replaced and upgraded.

5.6 Asbestos removal

EnergyAustralia is in the final stages of its asbestos removal program, with only two substations remaining to be done.

5.7 PB Associates' comments

PB Associates considered that EnergyAustralia's proposed compliance projects is justified. It believed that the information provided by EnergyAustralia is appropriate for these small projects and the likelihood of them proceeding is high.

PB Associates did not recommend any changes from EnergyAustralia's proposed expenditure on compliance projects.

Table 5.1 Compliance program capex

Capex ($m 2004–05)	04–05	05–06	06–07	07–08	08–09	Total
EnergyAustralia's forecast	0.82	0.82	0.82	0.82	0.82	4.12
PB Associates' recommendation	0.82	0.82	0.82	0.82	0.82	4.12

5.8 ACCC's considerations

In reaching its draft decision on EnergyAustralia's proposed compliance projects program, the ACCC has taken into consideration EnergyAustralia's supplementary capex application, PB Associates' report and all submissions received.

The ACCC's supplementary draft decision is to accept the proposed program proposed by EnergyAustralia. The ACCC considers that this capex has been justified and ensures EnergyAustralia is able to meet its external and regulatory requirements. Although the review was undertaken at a relatively high level, the magnitude of expenditure did not warrant any more detail than EnergyAustralia provided.

5.9 Supplementary draft decision

Table 5.2 represents the ACCC's supplementary draft decision in relation to an efficient amount of compliance capex. The ACCC's forecast of efficient compliance capex is not a list of approved projects. Rather, it is an amount of money that EnergyAustralia can allocate to projects that are necessary to minimise any risk of failure to its network and, ultimately, it is one factor used to determine EnergyAustralia's revenue cap.

Table 5.2 Compliance program capex

Capex ($m 2004–05)	04–05	05–06	06–07	07–08	08–09	Total
EnergyAustralia's forecast						
Ex ante capex allowance	0.82	0.82	0.82	0.82	0.82	4.10
Excluded capex	0.00	0.00	0.00	0.00	0.00	0.00
Total	0.82	0.82	0.82	0.82	0.82	4.10
ACCC supplementary draft decision						
Ex ante capex allowance	0.82	0.82	0.82	0.82	0.82	4.10
Excluded capex	0.00	0.00	0.00	0.00	0.00	0.00
Indicative excluded allowance	0.00	0.00	0.00	0.00	0.00	0.00
Capex allowance	0.82	0.82	0.82	0.82	0.82	4.10

6 Non-system capex

This section considers EnergyAustralia's proposed non-system capex proposal.

PB Associates reviewed EnergyAustralia's proposal and has made recommendations on the individual components of EnergyAustralia's non-system capex program.

The ACCC's considerations and supplementary draft decision are discussed in sections 6.4 and 6.5.

EnergyAustralia's non-system capex is broken down in to asset classes. These are discussed individually below. EnergyAustralia's non-system capex is submitted as whole of business, therefore it also includes distribution capex. EnergyAustralia allocates expenditure to its transmission network by calculating the total expenditure as a percentage of transmission assets against total network assets. That is, 12.4 per cent of its network assets are transmission assets; therefore 12.4 per cent of its non-system capex is allocated to transmission.

6.1 Information technology

In its application, EnergyAustralia explains that it has inherited various IT systems as a result of the merger of the former Orion Energy and Sydney Electricity. EnergyAustralia now plans to rationalise these systems and improve business outcomes.

EnergyAustralia states that it has identified various projects to improve business outcomes. Along with the costs of implementing these projects, it has allowed costs for the required changes in management and training.

6.1.1 PB Associates' comments

From the information provided, PB Associates concurred in general with the need and overall level of EnergyAustralia's forecast capex. However, PB Associates questioned how the outage management and billing and metering systems expenditure related to the transmission business. While PB Associates recognised that the transmission business required these processes, it raised concerns regarding whether it is appropriate for the standard 12.4 per cent to be attributed to the transmission business.

PB Associates did not suggest that the capex submitted by EnergyAustralia was imprudent, but that a more cost reflective allocation methodology may be appropriate. However PB Associates recognised that the distribution review has been finalised and therefore this may not be appropriate.

PB Associates did not recommend any adjustments to EnergyAustralia's proposed expenditure for IT systems.

Table 6.1 Information technology systems capex

Non-system capex ($m 2004–05)	04–05	05–06	06–07	07–08	08–09	Total
EnergyAustralia's forecast	3.17	3.17	3.17	3.17	3.17	15.86
PB Associates' recommendation	3.17	3.17	3.17	3.17	3.17	15.86

6.2 Vehicles and plant

EnergyAustralia states that its fleet capital program is developed by taking into consideration changes in technology, regulatory requirements, work practices and the general condition of the fleet. Plant and heavy vehicles are inspected annually to determine what units should be replaced.

6.2.1 PB Associates' comments

PB Associates reviewed the process and indicative replacement criteria specified by EnergyAustralia and it agreed with the condition based approach.

PB Associates considered that the forecast capital expenditure is reasonable and it does not recommend any adjustments to the proposed expenditure levels.

Table 6.2 Vehicles and plant capex

Non-system capex ($m 2004–05)	04–05	05–06	06–07	07–08	08–09	Total
EnergyAustralia's forecast	1.36	1.36	1.36	1.36	1.36	6.83
PB Associates' recommendation	1.36	1.36	1.36	1.36	1.36	6.83

6.3 Office equipment, furniture, land and buildings

EnergyAustralia forecasts that its office equipment and furniture expenditure will remain stable at current levels. It states that land and building expenditure has been solely included in the distribution capital.

EnergyAustralia's forecast expenditure includes major fit-outs and upgrades to training facilities and depots to cater for the increase in apprentices and new employees; as well as plant and equipment costs.

6.3.1 PB Associates' comments

PB Associates expressed concern that some of the allocation of these costs to transmission may not be appropriate because the Zetland depot, which requires upgrades, is a depot is used to service both transmission and distribution assets. However, for the purpose of its report, PB Associates assumed that the services provided at this depot revolve around new connections, outage management, emergency dispatch and/or reporting.

From that perspective, PB Associates recommended that the allocation of costs was appropriate and did not recommend changes to EnergyAustralia's proposed expenditure.

Table 6.3 Office equipment, furniture, land and buildings expenditure

Non-system capex ($m 2004–05)	04–05	05–06	06–07	07–08	08–09	Total
EnergyAustralia's forecast	0.99	0.99	0.99	0.99	0.99	4.96
PB Associates' recommendation	0.99	0.99	0.99	0.99	0.99	4.96

6.3.2 Submissions

EnergyAustralia addresses PB Associates' concerns in its submission to the ACCC on PB Associates report. EnergyAustralia acknowledges that, in some cases, a more accurate basis for allocation could have been used. Although it stated that further separation of its transmission business (including the establishment of separate IT systems) would have alleviated concerns over cost allocation, there would be no net public benefit of doing so.

EnergyAustralia believes that the time for discussing the allocation methodology has passed, with IPART's price determination having already been finalised and is not able to be reopened for the purpose of adjusting the allocation basis for joint costs. However, EnergyAustralia will work with the ACCC to determine the most appropriate methodology to be used in the lead up to the next revenue reset.

6.4 ACCC considerations

The ACCC considers that EnergyAustralia's non-system capex allocation method raises a concern because it may over or under estimate the efficient level of transmission non-system capex. PB Associates also highlighted its concern regarding the use of the allocation methodology, particularly when considering IT expenditure.

The ACCC recognises that this allocation methodology was used for EnergyAustralia's distribution review. Adopting a different allocation method for the transmission review could allow EnergyAustralia to over or under recover revenue. It could also provide perverse incentives for EnergyAustralia to re-allocate expenditure from distribution to transmission or vice versa. Therefore the ACCC's supplementary draft decision is to adopt EnergyAustralia's proposed allocation method for this regulatory period.

6.5 Supplementary draft decision

Table 6.4 represents that ACCC's supplementary draft decision in relation to an efficient amount of non-system capex. The ACCC's forecast of efficient non-system capex is not a list of approved projects. Rather, it is an allowance that EnergyAustralia can allocate to projects that it considers are necessary to minimise the risk of failure to its network.

Table 6.4 Non-system capex

Capex ($m 2004–05)	04–05	05–06	06–07	07–08	08–09	Total
EnergyAustralia's forecast						
Ex ante capex allowance	5.52	5.52	5.52	5.52	5.52	27.60
Excluded capex	0.00	0.00	0.00	0.00	0.00	0.00
Total	5.52	5.52	5.52	5.52	5.52	27.60
ACCC supplementary draft decision						
Ex ante capex allowance	5.52	5.52	5.52	5.52	5.52	27.60
Excluded capex	0.00	0.00	0.00	0.00	0.00	0.00
Indicative excluded allowance	0.00	0.00	0.00	0.00	0.00	0.00
Capex allowance	5.52	5.52	5.52	5.52	5.52	27.60

7 Supplementary draft decision

This section sets out the ACCC's supplementary draft decision on EnergyAustralia's revised capex application.

7.1 Indexation of the ex ante capex allowance

EnergyAustralia proposes that the ex ante capex allowance be dynamically adjusted according to growth in the following ABS indexes:

- average weekly earnings (seasonally adjusted) persons, all employees total earnings catalogue no. 6302
- producer price index catalogue no. 6427, table 19 materials used in other than house building (Sydney)
- producer price index catalogue no. 6427, table 11 articles produced by manufacturing industries—electrical equipment and appliance manufacturing (ANZSIC code 2852 and 2859).

EnergyAustralia states that its capex costs comprise labour, equipment and construction costs and that forecast capex must make adjustment for changes to these costs.

EnergyAustralia has also noted the impact of the exchange rate on its input costs and stated it would work with the ACCC to develop an appropriate adjustment for the final revenue cap.

7.1.1 ACCC considerations

The ACCC considers that the ex ante capex allowance should, if possible, be allowed to adjust by appropriate indices. The ACCC accepts that there is a general link between the proposed indices and EnergyAustralia's input costs, however it is concerned that they are not specific links.

The average weekly earnings index is based on the economy wide change in wage costs. Whereas wage costs of EnergyAustralia will be heavily influenced by the supply and demand of specific skills, rather than supply and demand of labour across the economy.

It is a similar case for the producer price indexes proposed. The price of building materials except for material for building houses index is not based on the specific cost of building materials that are inputs to transmission building. The producer price index for articles produced by manufacturing industries is based on a variety of manufacturing industries that are irrelevant to transmission building.

Therefore ACCC considers that the proposed indexes are inappropriate because they are economy wide indicators, rather than specific to transmission input costs.

The SRP[21] states that setting the ex ante capex allowance is intended to establish certainty and incentives for efficiency. To achieve this, the ex ante capex allowance is required to be linked to the efficient costs for the period. The ACCC considers that the general indexes proposed do not achieve this.

It should be noted that EnergyAustralia has included forecast increases in inputs costs in its capex forecasts, which PB Associates has reviewed and, for the majority, accepted as reasonable.

The ACCC considers that EnergyAustralia has not demonstrated that there is a problem with the ACCC's current use of the CPI. It also believes that EnergyAustralia has not been able to demonstrate that its proposed ABS indexes are better than the ACCC's use of the CPI.

CPI is a commonly used and widely accepted measure of inflation that has been employed by the ACCC in its previous revenue cap determinations. The continued use of CPI by the ACCC will help achieve reasonable certainty and consistency over time in the outcomes of the ACCC's regulatory processes. This objective is less likely to be achieved if the ACCC begins tailoring indices for each regulated entity.

7.1.2 Supplementary draft decision

For the reasons discussed above, the supplementary draft decision is to set an ex ante capex allowance that does not dynamically adjust.

7.2 Deliverability

In its report to the ACCC, PB Associates commented that deliverability of EnergyAustralia's proposed capex may become an issue over the regulatory period. EnergyAustralia in its submission expressed concerns that these comments were unwarranted.

7.2.1 ACCC considerations

The ACCC understands these comments to be in reference to events that are external to EnergyAustralia's control. An example of such an external event was given by EnergyAustralia on page 78 of its revised capex application, albeit in another context, it stated that:

> Due to the fact that a large number of Transmission and Distribution businesses have significantly increased their capital expenditure program, and despite having a range of period contracts in place for particular types of equipment, EnergyAustralia is currently experiencing difficulties in sourcing particular types of equipment.

The ACCC notes that no matter how well managed a network is, there will be external pressures that have the potential to delay capex. Other examples of similar external pressures include:

21 SRP—background paper, op.cit., page 56.

- increasing opposition to infrastructure development in community consultation
- changing development approval processes
- changing environmental and safety regulations.

While these external pressures are recognised and planned for by EnergyAustralia, it is difficult to quantify their impact on forecast capex. This unquantifiable impact of increasing demand for required resources to deliver increasing network capex can have two impacts on capex over the regulatory period.

First, an increased demand for resources may result in EnergyAustralia paying higher prices for these resources. EnergyAustralia has factored these potential input cost increases into its capex forecasts.

Second, if the required resources are stretched beyond their capacity, the capex over the regulatory period will be reduced because of forced delays. EnergyAustralia does not appear to have factored this into its forecast capex.

After its review of EnergyAustralia's proposed capex, PB Associates recommended a total capex program smaller than the proposal based on factors it was able to quantify. In doing so it accepted that there would be higher input costs but it also concluded that some capex proposed would be delayed. This recommendation is consistent with its comments about the deliverability.

This supplementary draft decision allowed a 28 percent increase upon actual capex from the last regulatory period. In calculating this increase, the ACCC considered that the external pressures to deliver capital would not require a reduction in the allowed capex. However had the ACCC allowed an increase of the order proposed by EnergyAustralia the issue of deliverability would have required further attention.

7.3 Historical capex

The Energy Markets Reform Forum, in its submissions on EnergyAustralia's revised capex and PB Associates' report, expressed concern that EnergyAustralia's forecast capex was a significant increase from previous years expenditure. Their main concern was that such an increase in capex in a firm operating in a competitive market would require significant justification.

The EUAA further stated that it would be appropriate for EnergyAustralia to provide justification similar to that of a competitive firm.

7.3.1 ACCC considerations

The ACCC considers that the total capex proposed by EnergyAustralia should be reduced for the reasons explained throughout this supplementary draft decision. Figure 7.1 compares EnergyAustralia's proposal with its actual past capex .

The ACCC's supplementary draft decision allows an ex ante capex allowance of $145m plus an indicative capex allowance of $37m for excluded projects, over the

regulatory period. This sum of $182m is a 28 per cent increase over the historical capex of $142m over the previous regulatory period.

The ACCC considers an increase in capex to be appropriate because of increasing demand and asset ages. In addition to this increased capex, the ACCC has allowed excluded projects to be the subject of further review before setting the appropriate capex for the excluded project items.

7.4 Indicative excluded capex

After considering the total capex the ACCC must set a maximum allowed revenue (MAR) for EnergyAustralia for the regulatory period. As mentioned in the SRP[22] the power to re-open a revenue cap during the regulatory period is limited. Therefore the ACCC will not be able to change EnergyAustralia's revenue cap immediately after undertaking a review of the excluded capex projects.

The supplementary draft decision includes an indicative revenue allowance associated with the excluded projects. This would then be adjusted, subject to a code change being proposed, in the revenue cap decision for the next regulatory period. The adjustment will be based on the ACCC's findings from reviewing each of the excluded projects.

In addition to the ex ante capex allowance ($145.18m) shown in table 8, the ACCC has included $36.7m as an indicative capex allowance for the excluded projects.

The indicative allowance was estimated as follows:

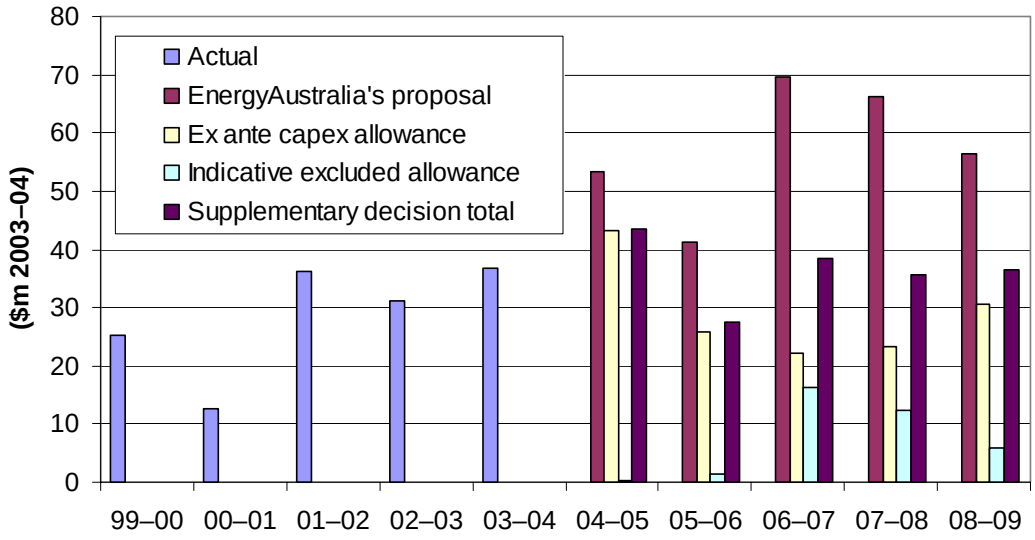
- No indicative allowance was made for the Major Inner Metropolitan 132kV network development. This was because the ACCC is uncertain that the project will be required this regulatory period. TransGrid has informed the ACCC that it is uncertain that its 330/132kV substation will be constructed before the next regulatory period.

- The ACCC considers $36.7m is indicative of the costs associated with the replacement of feeders 908/9. The ACCC considers this replacement project has an extremely high probability of proceeding this regulatory period, which is driven by the risks associated with not replacing the feeders.

- No indicative allowance has been made for the customer connections. The ACCC considers that such connections have a high degree of uncertainty of proceeding, scope and cost.

22 SRP – background paper, page 143.

Figure 7.1 Total capex ($m 2003–04)



7.5 Supplementary draft decision

In reaching its draft decision the ACCC has considered EnergyAustralia's revised capex application and other information it provided. It also considered PB Associates' report and the submissions received.

Table 7.1 represents the ACCC's supplementary draft decision in relation to an efficient amount of total capex.

Table 7.1 Total capex

Capex ($m 2004–05)	04–05	05–06	06–07	07–08	08–09	Total
EnergyAustralia's forecast						
Ex ante capex allowance	52.69	32.42	26.92	28.55	33.00	173.58
Excluded capex	0.70	8.90	42.70	37.80	19.50	109.60
Total	53.39	41.32	69.62	66.35	52.50	283.18
ACCC supplementary draft decision						
Ex ante capex allowance	43.19	25.92	22.16	23.25	30.66	145.18
Excluded capex	0.40	2.70	28.20	25.40	15.70	72.40
Indicative excluded allowance	0.40	1.50	16.40	12.40	6.00	36.70
Capex allowance	43.59	27.42	38.56	35.65	36.66	181.88

The capex allowance that the ACCC has proposed for EnergyAustralia is not designed to fund the construction of a list of identified projects. As noted in the SRP background

paper (at page 55) the capex allowance does not entail project-specific approval and there is no constraint on TNSPs investing in a different suite of projects to those used in the calculation of the allowance. Similarly, the fact that a project was not considered by the ACCC in the determination of the revenue cap does not necessarily mean that it should not be funded from the capex allowance.

The capex allowance proposed by the ACCC is an amount of money available to EnergyAustralia for it to allocate to projects that it considers are necessary in maintaining the reliability of its network. It is EnergyAustralia's responsibility to allocate the capex allowance efficiently to ensure any risk of failure to its network is minimised.

8 Total revenue

In setting this supplementary draft revenue cap the ACCC has considered all areas of forecast capex. Forecast capex is the only area that has changed from the original draft decision. For the purpose of this supplementary draft decision, the other building blocks included in the MAR calculation are the same as the original draft decision.[23]

This section explains the ACCC's calculation of EnergyAustralia's AR from 1 July 2004 to 30 June 2009.

The ACCC's role as regulator of transmission revenues is limited to determining a TNSP's MAR. As shown below, the MAR is calculated by adding (or deducting) a financial incentive related to service standard performance and pass through amounts to (or from) the AR.

TNSPs are responsible for calculating the transmission charges payable by their customers in accordance with the principles contained in part C of chapter 6 of the code. TNSP's must notify customers of the transmission service prices that are to apply for the following financial year by 15 May each year for the purposes of determining distribution prices as outlined in part E of chapter 6 of the code.

The annual revenue that a TNSP recovers through these charges must not exceed the MAR set by the ACCC. Any over or under recoveries must be offset against a TNSP's revenues in the following year.

8.1 The accrual building block approach

The building block formula, below, is used to calculate the AR in the first year. The MAR is equivalent to the AR for the first year:

AR = return on capital + return of capital + opex + tax

= (WACC * WDV) + D + opex + tax

where:

AR = allowed revenue

WACC = post-tax nominal weighted average cost of capital

WDV = written down (depreciated) value of the asset base

D = depreciation

opex = operating and maintenance expenditure

tax = expected business income tax payable

23 ACCC, op.cit., 28 April 2004.

Each subsequent year's AR is calculated as follows:

$AR_t = AR_{t-1} \times (1 + CPI) \times (1 - X)$

where:

AR = annual revenue

t = time period/financial year

CPI = actual CPI

X = smoothing factor

The following formula is used to calculate the MAR for each year. If a pass through is approved, the amount approved will be included in the MAR.

MAR_t = (allowed revenue) ± (financial incentive) ± (pass through)

$$= \left(AR_t\right) \pm \left(\frac{(AR_{t-1} + AR_{t-2})}{2} \times S_{ct}\right) \pm \text{(pass through)}$$

where:

MAR = maximum allowed revenue

AR = allowed revenue

S = service standards factor (appendix C)

t = regulatory period

ct = calendar year

8.2 Conclusion

The ACCC proposes an unsmoothed revenue allowance that increases from $90m in 2004–05 to $110.8m 2008–09 as shown in table 8.1.

Table 8.1 EnergyAustralia's unsmoothed annual revenue

($m nominal)	04–05	05–06	06–07	07–08	08–09
Return on capital	55.3	58.6	60.3	63.1	65.6
Return of capital	9.3	10.4	11.5	12.7	14.1
Operating expenses	22.6	23.1	24.5	25.7	27.0
Estimated taxes payable	5.4	6.5	7.1	7.6	8.3
Value of franking credits	(2.7)	(3.3)	(3.5)	(3.8)	(4.2)
Unadjusted revenue allowance	90.0	95.3	99.8	105.3	110.8

The ACCC has determined a smoothed revenue allowance for EnergyAustralia that increases from $89.97m in 2003–04 to $111.13m in 2008–09, as shown in table 8.2.

The draft decision is based on forecast inflation of 2.44 per cent per annum and applies a smoothing factor of -3.17 per cent. EnergyAustralia must adjust the opening revenue figures annually by actual inflation (the eight weighted capital city CPI). The forecast inflation remains the same as that used in the original draft decision, which is summarised in appendix A.

Table 8.2 EnergyAustralia's smoothed annual revenue

($m nominal)	03–04[1]	04–05	05–06	06–07	07–08	08–09
Smoothed AR	78.082	89.97	94.84	99.99	105.41	111.13
Smoothed AR by reducing RAB by $90.4m3	78.08	79.63	84.48	89.61	95.07	100.85

1. Final year of 1999–2004 revenue cap decision.
2. $78.08 is not the result of the same RAB being reviewed in this regulatory period. $90.4m of EnergyAustralia's distribution were deemed to be transmission assets from 2004–05.
3. This illustrates the AR if the $90.4m of assets were not deemed to be transmission assets.

The final MAR will be determined by adding (or deducting) to the AR the service standards incentive (or penalty) and any allowed pass through amounts.

This revenue cap covers transmission services defined by the code and associated activities to be regulated by the ACCC, provided by EnergyAustralia.

The revenue increase over the regulatory period consists of:

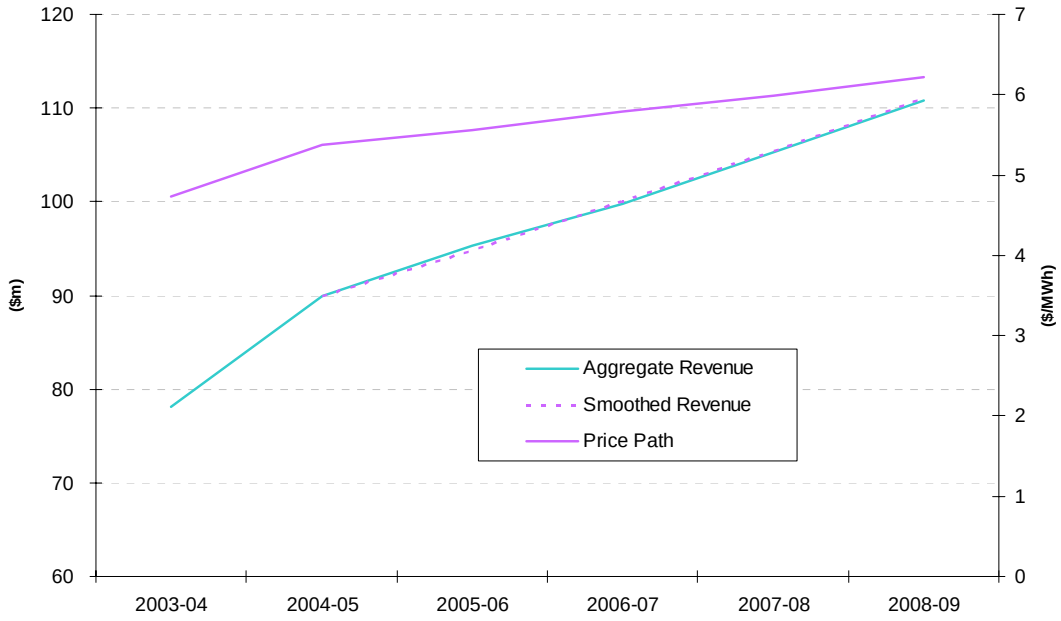
- an initial increase of about 15.2 per cent (nominal) in the first year; mainly as a result of increases in the asset base from assets moving from distribution to transmission, which accounts for the majority of the increase between 2003–04 and 2004–05. In fact, excluding these assets from the asset base the first year increase would only be 2 per cent (nominal)

- a subsequent increase of around 5.4 per cent per annum (nominal) on average during the remainder of the regulatory period (mainly as a result of the large capex program the ACCC has provisionally adopted while developing an ex ante capex framework for the final decision).

Figure 8.1 compares the revenue proposed by EnergyAustralia in its application with that allowed by this draft decision (both smoothed and unsmoothed).[24]

24 The 2003–2004 revenue of $78.08m is based on a RAB that excludes assets transferred to EnergyAustralia's opening RAB for 2004–2005.

Figure 8.1 Revenue comparison 2003–04 to 2008–09 ($m nominal)



Impact on transmission charges

Figure 8.1 shows the resulting price path of this draft decision over the regulatory period. The indicative 2004–05 price path represents a 13.5 per cent increase over 2003–04, which is largely the result of distribution assets being deemed to be transmission. The average annual increase over the subsequent years is about 3.75 per cent (nominal).

The ACCC estimates that its draft decision will result, on average, in a 6 per cent per annum increase (nominal) in transmission charges over the regulatory period. Transmission charges represent approximately 10 per cent of end user electricity charges.

Appendix A Original draft decision

The following is a summary of the draft decision on EnergyAustralia's revenue cap which the ACCC published on 28 April 2004. This summary is intended to give an overview and background to the Supplementary Decision. For full details of the draft decision, please refer to the draft decision itself which is available on the ACCC's website.

A.1 Opening asset base

In its application, EnergyAustralia proposed an opening RAB of $702m, but subsequently revised this to $680.2m. Both figures were based on an optimised depreciated replacement cost (ODRC) valuation conducted by SKM. EnergyAustralia contended that a new ODRC valuation was warranted because the 1999 valuation contained material errors.

EnergyAustralia also stated that all of its past capex was prudent and should be included in the opening RAB.

The ACCC considered that EnergyAustralia had failed to demonstrate that the ODRC valuation conducted in 1999 was materially affected by error. Further, the ACCC was unable to determine whether EnergyAustralia's past capex was efficient and does not accept the values included in EnergyAustralia's proposed 2004 ODRC valuation.

Therefore, the ACCC proposed to adopt a roll-forward methodology in determining an opening RAB for the 2004–2009 regulatory period.

With regard to assets changing classification from distribution to transmission from 1 July 2004, the ACCC's draft decision was that these assets met the code definition of transmission assets and the transmission opening RAB would be increased by $90.4m, with a corresponding reduction in the distribution RAB.

In assessing EnergyAustralia's past capex, the ACCC sought information from EnergyAustralia to demonstrate the efficiency of its investments. In particular its compliance with section 5.6 of the code or any other prudent investment test or economic analysis which demonstrated that its past capex was efficient. This is consistent with the efficiency criteria set out in the 1999–2004 revenue cap decision.[25]

EnergyAustralia only provided one final and one draft regulatory test application. The ACCC identified two projects, the Macquarie Park and Beresfield substations, where EnergyAustralia had not conducted the regulatory test and failed to comply with its code obligations.

25 ACCC, op.cit., 25 January 2000.

The ACCC considered that, for a number of projects, EnergyAustralia had not provided an economic analysis of options to demonstrate that the option chosen was the most efficient means of addressing a problem on its network.

GHD was also unsuccessful in its attempts to obtain from EnergyAustralia a robust economic analysis of options considered when developing past capital projects and as a result did not offer a conclusion about the efficiency of EnergyAustralia's past capex.

For the projects included in the 1999–2004 revenue cap decision, the ACCC's draft decision was that these projects are prudent investments and will be rolled into the RAB at their actual cost. For projects not included in the 1999–2004 revenue cap decision, where EnergyAustralia demonstrated that its capex projects are efficient (Green Square project, replacement and refurbishment program and non-system capex), the ACCC will allow the full costs of the project to be rolled into the opening RAB.

The ACCC did not consider that EnergyAustralia had demonstrated a need for the undergrounding of transmission mains at Homebush and hence the ACCC's draft decision was to exclude this project from the opening RAB.

For the CBD project, the ACCC determined that EnergyAustralia was prudent in undertaking the regulatory test and that, if the investment had occurred as planned, then it would have been deemed prudent. However, the ACCC also determined that the entire cost of the upgrade was not necessarily prudent because of the cost increases.

Without a demonstration that EnergyAustralia was prudent in incurring these cost increases, the ACCC decided not to roll the entire spend of $62m into the RAB for the final revenue cap decision. Therefore, consistent with the draft TransGrid revenue cap decision,[26] the ACCC will disallow any return on EnergyAustralia's investment in the CBD upgrade during the period of construction for the draft decision. Adopting this approach means reducing the carried forward value of this project by $8.7m or 14 per cent.

For the remaining projects, the ACCC considered that EnergyAustralia failed to provide sufficient information to demonstrate that these projects were efficient investments. Without sufficient information the ACCC was unable to ascertain an efficient level of expenditure for these projects. Therefore, the ACCC's draft decision also disallowed any return on EnergyAustralia's investment in these projects during the period of construction for the draft decision.

With respect to past capex, the ACCC's decided to allow $125m to be rolled into the opening RAB, including the foregone rate of return.

The ACCC's draft decision was that the opening RAB for the 2004–2009 regulatory period is $628.6m. This was a substantial increase of approximately 37 per cent on the opening RAB for the 1999-2004 revenue cap.

26 ACCC, op.cit., 28 April 2004.

This increase was the result of:

- a considerable overspend on the capital allowance included in the 1999–2004 revenue cap decision
- assets changing classification.

The impact of the assets changing classification contributed 53 per cent to the increase in the opening RAB. Excluding its impact would have resulted in an increase of only 18 per cent.

A.2 Forecast capex

EnergyAustralia provided its in-principle support to exploring the development of a new ex ante capex framework approach.

The ACCC acknowledged that EnergyAustralia's initial application was not prepared with the objective of setting a fixed cap for capital expenditure, but rather to determine a path of prices and cash flows. The ACCC therefore considered that EnergyAustralia's request to resubmit its future capex application was reasonable.

In order for EnergyAustralia and TransGrid to publish transmission prices by 15 May 2004 the ACCC provided a provisional capex allowance that EnergyAustralia can use as a guide in setting and subsequently publishing transmission prices. The ACCC used EnergyAustralia's proposed capex allowance of $183.8m to set the MAR (see table 1.1 below). This enabled EnergyAustralia to prepare its transmission prices for the 2004–05 financial year.

The ACCC stated that it would consider making its final revenue cap decisions using the ex ante approach. To do this the ACCC anticipated that EnergyAustralia would submit a proposal on how its forecast capex should be treated under an ex ante approach.

Table A.1 ACCC's draft decision capex

($m 2003–04)	04–05	05–06	06–07	07–08	08–09	Total
Growth driven total	23.7	14.6	7.7	9.8	10.8	66.6
Replacement total	12.6	14.4	29.9	20.7	11.9	89.5
Transmission non-system	5.6	5.6	5.3	5.6	5.6	27.7
Total capex	41.9	34.9	42.9	36.1	28.3	183.8

Note: numbers may not add due to rounding.

A.3 Operating and maintenance expenditure

GHD was engaged to ascertain whether or not EnergyAustralia's proposed opex requirement was efficient, and commenced its review of EnergyAustralia's proposed opex by analysing EnergyAustralia's opex in the 1999–2004 regulatory period, with a

view to providing the ACCC with guidance about the reasonableness of both the opex starting point and path for the 2004–2009 regulatory period.

When EnergyAustralia's first revenue cap was being determined by the ACCC, EnergyAustralia was limited in its ability to provide an accurate estimate of the transmission component of its network operating costs. As a result, EnergyAustralia estimated these costs via a global allocation based on the proportion of the replacement cost of transmission assets relative to total network assets.

Three sets of opex data exist for the 1999–2004 regulatory period, reflecting different allocation frameworks, and different definitions of transmission assets. The three sets of data are:

- original opex: based on the original definition of transmission assets agreed by the ACCC in 1998, and apportioned using a global allocation framework

- amended opex: based on the original definition of transmission assets agreed by the ACCC in 1998, and apportioned using an asset class allocation framework.

- new opex: based on the new definition of transmission assets agreed to by the ACCC in 2003, and apportioned using an asset class allocation framework.

EnergyAustralia proposed a total opex allowance of $24.4m in 2004–05 increasing to $27.7m by 2008–09. This constituted an increase in real terms of 14 per cent over the period. This proposed opex requirement was developed taking into account the increased amount of transmission assets and using the revised allocation of opex by asset class. EnergyAustralia's proposed opex for 2004–05 represented a step increase of around 13 per cent over its forecast opex for 2003–04, and a 39 per cent increase when compared to the opex approved by the ACCC for 2003–04.

The ACCC considered that the review of opex for the 1999–2004 regulatory period must be undertaken using the same definition of transmission assets and cost allocation methodology that was used at the time of the 1999–2004 revenue cap decision. The ACCC further considered that a number of adjustments needed to be made to EnergyAustralia's proposed opex starting point for the 2004-2009 regulatory period. These adjustments reflect inefficient expenditures as identified by GHD or the ACCC. The impact of these adjustments on EnergyAustralia's opex for the 1999–2004 regulatory period is summarised in table A.2.

Table A.2 EnergyAustralia's opex adjusted for efficiencies

($m 2003–04)	99–00	00–01	01–02	02–03	03–04
EnergyAustralia's actual opex	24.35	26.70	31.14	27.91	28.781
Adjustments:					
Superannuation		1.81	4.37	1.91	1.971
Olympics	0.20	0.10			
Insurance			0.34		
General efficiency	0.12	0.27	0.47	0.56	0.75
ACCC adjusted opex	24.03	24.52	25.96	25.44	26.06

1. These forecasts were not provided and therefore a 2002–03 estimate including an assumed CPI adjustment of 3.1 per cent was used.

GHD provided estimates of the impact of the change in asset definition and allocation methodology on the original estimates of opex by EnergyAustralia. The change, expressed as a proportion of the original estimate was then used to amend the adjusted opex for the 1999–2004 regulatory period. The ACCC followed this methodology to estimate the new starting point for EnergyAustralia's opex for the 2004–2009 regulatory period. Table A.3 sets out the calculation for determining this proportion to apply to the ACCC adjusted opex (in table A.2).

Table A.3 EnergyAustralia's opex amended for new asset definition and allocation framework

Opex ($m 2003–04)	99–00	00–01	01–02	02–03	03–04
EnergyAustralia's actual opex[2]	24.35	26.70	31.14	27.91	28.781
EnergyAustralia's new opex[3]	23.00	23.82	23.02	22.30	21.58
EnergyAustralia's new opex ÷ EnergyAustralia's actual opex (%)	94.46	89.21	73.92	79.90	74.981
ACCC adjusted opex[2]	24.03	24.52	25.96	25.44	26.061
EnergyAustralia's new to actual opex proportion (%)	94.46	89.21	73.92	79.90	74.981
ACCC new opex[3]	22.70	21.87	19.19	20.33	19.54

1. These forecasts were not provided and therefore a 2002–03 estimate including an assumed CPI adjustment of 3.1 per cent was used.
2. Based on original definition of transmission assets and global allocation framework.
3. Based on new definition of transmission assets and revised asset class allocation framework.

The ACCC new opex set out in table A.3 reflected the ACCC's view of an efficient opex spend by EnergyAustralia for the 1999–2004 regulatory, based on the new asset definition and allocation framework.

The ACCC's calculation of the new 2003–04 opex, after adjustments for ACCC identified efficiencies, new transmission asset definition and new allocation framework

implies a shift in EnergyAustralia's starting point of $2.04m down from $21.58m to $19.54m in the year 2003–04. This reflects the ACCC's assessment of the efficient opex for transmission assets for this year if the new asset definition and allocation framework is used.

In order to derive the ACCC's proposed allowance for opex in the 2004–2009 regulatory period, EnergyAustralia's proposed opex was adjusted to reflect the new starting point, and then the impact of identified efficiency drivers were taken into account.

Table A.4 EnergyAustralia's opex

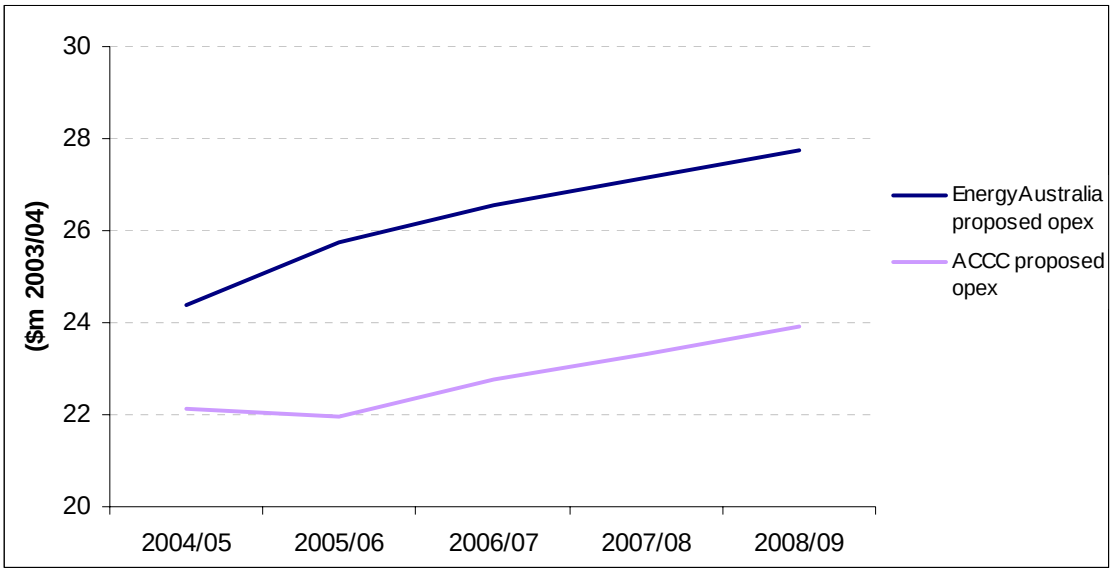
Opex ($m 2003–04)	04–05	05–06	06–07	07–08	08–09	Total
EnergyAustralia's proposal[1]	24.37	25.75	26.56	27.14	27.73	131.55
less: ACCC starting point variation ($2.04)	22.33	23.71	24.52	25.10	25.69	121.35
less: cost driver variation						
Confidential project	0.07	(1.42)	(1.42)	(1.42)	(1.42)	(5.61)
IT	(0.67)	(0.71)	(0.74)	(0.75)	(0.77)	(3.64)
Self insurance	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.10)
add: debt raising cost	0.40	0.41	0.41	0.42	0.43	2.07
ACCC proposed opex	22.11	21.97	22.75	23.33	23.91	114.07

1. EnergyAustralia's opex forecasts do not include debt raising costs as they were included in its WACC calculations.

For the purposes of calculating an efficient starting point opex for 2004–05, the ACCC considered that EnergyAustralia's opex in the 1999–2004 regulatory period included inefficiencies of around $2m per annum. The ACCC also considered that different cost drivers would affect EnergyAustralia's opex requirement in the 2004-2009 regulatory period.

Accordingly, other potential efficiencies identified by the ACCC for opex in the 2004-2009 regulatory period included IT, self insurance and a confidential project. The ACCC also included an allowance for debt raising costs. These adjustments and the ACCC's proposed opex allowance are set out in table A.4 and illustrated in figure A.1.

Figure A.1 Opex 2004–2009 regulatory period ($m 2003–04)



A.4 Cost of capital

The ACCC used the risk adjusted rate of return required by investors in commercial enterprises facing similar business risks to establish the WACC for EnergyAustralia.

The ACCC carefully considered the values that should be assigned to EnergyAustralia's WACC, given the nature of its business and current financial circumstances. The parameter values adopted for the draft decision are shown in table A.5 and also include the corresponding parameters proposed by EnergyAustralia.

Table A.5 Comparison of cost of capital parameters

Parameter	Draft decision	EnergyAustralia's proposal
Nominal risk-free interest rate (r_f)	5.89 %	5.55 %
Expected inflation rate (f)	2.44 %	3.34 %
Debt margin (over r_f)	0.87 %	1.475 %
Cost of debt $r_d = r_f$ + debt margin	6.76 %	7.025 %
Market risk premium (r_m-r_f)	6.00 %	6.00 %
Gearing (D/V)	60 %	60 %
Value of imputation credits γ	50 %	50 %
Asset beta β_a	0.40	0.425
Debt beta β_d	0.00	0.00
Equity beta βe	1.00	1.06
Nominal post-tax return on equity	11.86 %	11.89 %
Post-tax nominal WACC	6.84 %	6.95 %
Pre-tax real WACC	6.94 %	7.47 %
Nominal vanilla WACC	**8.80 %**	**8.97 %**

The above parameters were calculated in accordance with the ACCC's DRP and are consistent with its previous revenue cap decisions. Some of the parameters vary over time according to market conditions (for example, the nominal risk-free rate adopted for the draft decision is different to that proposed by EnergyAustralia). It was noted that they will be revised on the date of the final decision.

A.5 Total allowed revenue

The ACCC's role as regulator of transmission revenues is limited to determining a TNSP's MAR. The MAR is calculated by adding (or deducting) a financial incentive related to service standard performance and pass through amounts to (or from) the AR. The ACCC uses a building block approach to estimate the AR in the first year of the regulatory period and this AR is adjusted to determine subsequent MARs for the remainder of the regulatory period.

In its application, EnergyAustralia requested a smoothed revenue of $108m in 2004–05, increasing to $128m in 2008–09. In 2003–04, EnergyAustralia's comparable AR is $78m.

Using the estimates of the components of the building block approach (as described in section 7.8) the ACCC proposed a smoothed AR that increases from $91.3m in 2004–05 to $113.1m 2008–09, as shown in table A.6.

Table A.6 EnergyAustralia's smoothed annual revenue

($m nominal)	03–041	04–05	05–06	06–07	07–08	08–09
Smoothed AR	78.08	91.27	96.28	101.58	107.16	113.05

1. Final year of 1999–2004 revenue cap decision.

The revenue increase over the regulatory period consists of:

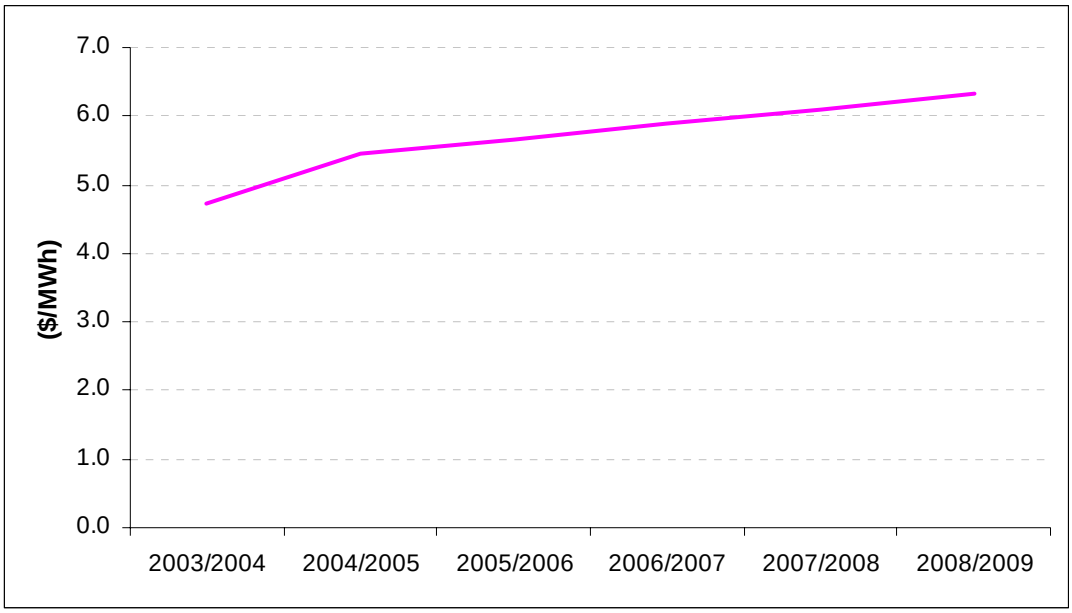
- an initial increase of about 16.9 per cent (nominal) in the first year; mainly as a result of increases in the asset base from assets moving from distribution to transmission, which accounts for the majority of the increase between 2003–04 and 2004–05. In fact, if these assets were excluded from the asset base, the first year increase would only be 3.7 per cent (nominal)

- a subsequent increase of around 5.5 per cent per annum (nominal) on average during the remainder of the regulatory period (mainly as a result of the large capex program the ACCC has provisionally adopted while developing an ex ante capex framework for the final decision).

Figure 1.2 shows the resulting price path of this draft decision over the regulatory period. The indicative 2004–05 price path represents a 15 per cent increase over 2003–04 and will increase at an average of 4 per cent over the subsequent years.

The ACCC estimated that its draft decision would result, on average, in a 6 per cent per annum increase (in nominal terms) in transmission charges over the regulatory period. Transmission charges represent approximately 10 per cent of end user electricity charges.

Figure A.2 Illustrative price path 2003–04 to 2008–09 ($/MWh)



A.6 Service standards

In order to set financial incentives, the ACCC proposed to implement GHD's nominated performance measures and targets for EnergyAustralia. For the 2004–2009 regulatory period, the ACCC's draft decision was to adopt the weightings and targets recommended by GHD (table A.7).

Table A.7 Service standards proposed by GHD

Performance measure	Unit of measure	Revenue at risk (%)	Collar	Dead band knee 1	Target	Dead band knee 2	Cap
Transmission circuit availability	%	1	95.3	-	96.1	-	96.7
Average outage duration	Data to be measured by EnergyAustralia during 2004-2009 regulatory period						

Therefore, for the 2004–2009 regulatory period, EnergyAustralia has a financial incentive applying to its performance as measured by transmission circuit availability. However, EnergyAustralia is also required to measure its transmission circuit availability with the inclusion of:

- transformers and reactive plant, in accordance with the proposed standard definition
- significant lengths of new 132 kilovolt (kV) lines and other equipment, resulting from the re-classification of some assets from distribution to transmission during the period of the 1999–2004 regulatory period.

In addition to this, the ACCC requires that EnergyAustralia report on the other performance measures contained in its service standards guidelines. This reporting requirement excludes the need to report on inter-regional constraints because EnergyAustralia does not own or operate any inter-regional assets.

Appendix B Excluded projects' triggers

This appendix lists the projects that the ACCC has, in this supplementary draft decision, excluded from the main ex ante capex allowance. It also sets out the triggers that should see EnergyAustralia notify the ACCC of its intention to invoke an excluded project.

B.1 Replacement of feeders 908/9

The replacement of feeders 908/9 is driven by the need to replace aged cables. In this case the ACCC considers the excluded project to be triggered and EnergyAustralia has written to the ACCC to notify it that it will begin its investigation of the most appropriate solution.

The scope of this project is to replace the function of the existing feeders 908/9 from Canterbury to Bunnerong.

This excluded project, now it has been triggered, will be subject to the assessment process outlined in appendix C.

B.2 Major inner metropolitan 132kV network development

The major inner metropolitan 132kV network development is a program to address network constraints emerging in Sydney. Table B.1 shows the network constraints that are of particular concern to EnergyAustralia and are driving this project.

Table B.1 Project drivers and triggers

Year	Network element constrained	Constraint conditions
2005	TransGrid's feeder 41	Single contingency outage of TransGrid's feeder 42
2008	TransGrid's feeder 42	Single contingency outage of TransGrid's feeder 41
2009	TransGrid's Sydney South transformers 1, 2, 4, 5 and 6	
2010	EnergyAustralia's feeders 910 and 911	

The ACCC considers it appropriate that this project should be triggered by EnergyAustralia providing a detailed identification of needs document highlighting these key constraints.

B.3 Customer connections

The ACCC considers that proposed connections should be triggered if all of the following criteria are met:

- one of the listed potential customers requires connection to EnergyAustralia's transmission network
- a regulatory test assessment requires shared network augmentation
- the shared network augmentation required in the regulatory period is material, and
- the shared network augmentation is not already allowed in other augmentation projects.

Appendix C Process to assess excluded projects

This appendix outlines the indicative process the ACCC intends to use to assess future EnergyAustralia requests to invoke an excluded project.

Appendix B lists the excluded projects that might be invoked during the regulatory period. It also includes a set a triggers that must be satisfied for an excluded project to be invoked.

The process outlined in this appendix should be considered indicative of the process that will be followed in the future. This process and times indicated are likely to vary to account for the needs of the projects and the timing of EnergyAustralia's investment decision making process.

C.1 EnergyAustralia's application

EnergyAustralia stated that its governance procedures deliver the majority of information that is likely to be required for the approval of its excluded projects.

EnergyAustralia proposed to use the outputs of its governance framework as a starting point for the approval of its excluded projects. The reasons given for this proposal are that by aligning its governance framework with the regulatory approval process for excluded projects,the administrative complexity and costs will be limited. It will also allow the ACCC to raise issues with EnergyAustralia before investment decisions are made. The outcomes of EnergyAustralia's governance framework are:

- identification of needs; statement of need and network options; and instruction for project options study
- instruction for project/program development
- project/program authorisation
- project/program completion & acceptance
- post implementation review.

EnergyAustralia proposed that these outputs will be forwarded to the ACCC at the time the documents are generated by the governance process. This will allow ACCC staff to be informed of new information as it becomes available to EnergyAustralia management.

C.2 ACCC's considerations

The ACCC considers it appropriate that where possible it should align the process to assess invoked excluded projects with EnergyAustralia's governance framework.

Table C.1 shows where the ACCC's process aligns with EnergyAustralia's governance framework.

Table C.1 Alignment of ACCC and EnergyAustralia processes

Stages of assessment	Steps in the assessment process outlined in attachment G to the SRP	Steps in EnergyAustralia's governance framework
1	TNSP invoke excluded event	Identify issues
2	TNSP should apply the regulatory test or other investment appraisal process	Develop feasible options
3	ACCC sets an incentive for the excluded project	Plan & justify
4		Execute project
5	Re-setting the revenue cap	Operate and evaluate

EnergyAustralia's governance framework was discussed in chapter 2 and the ACCC's SRP (attachment G) outlines the generic process to be used to assess excluded projects. The following discusses how the two processes are aligned to ensure that EnergyAustralia's excluded projects are assessed effectively.

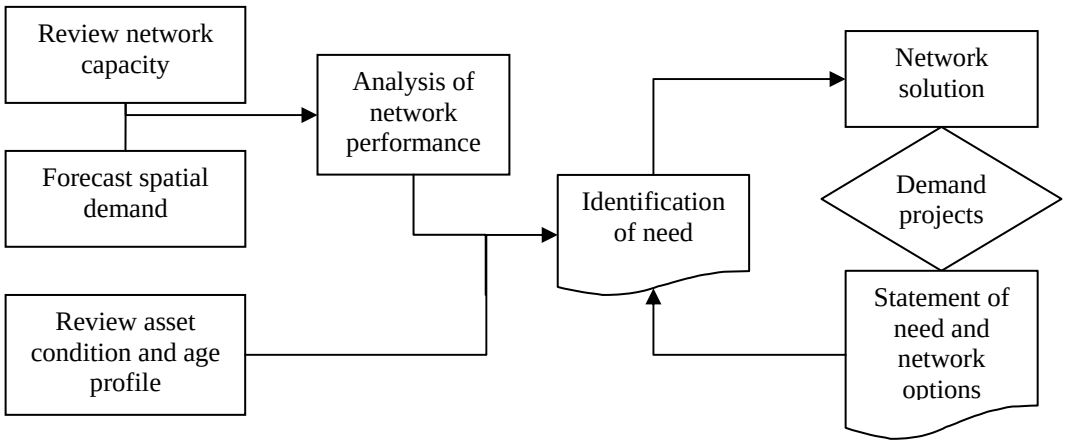
Stage 1 Invoke the excluded event

In the first instance EnergyAustralia should identify the needs or drivers of the project. Typically this will be associated with the excluded project triggers defined in appendix B. Therefore the outputs provided to the ACCC should include supporting information and an explanation that shows how the excluded project has met the trigger events.

EnergyAustralia's governance framework caters for this stage (figure C.1) with its stage 'identify issues'. EnergyAustralia states that the outputs of this stage are typically:

- identification of needs
- statement of need and network options
- instruction for project options study.

Figure C.1 EnergyAustralia's governance – identify needs



The complexity of the needs and the trigger events will dictate whether the ACCC requires expert assistance in this first stage. It will also dictate what supporting information the ACCC will request to form an opinion.

After receiving any expert advice and supporting information from EnergyAustralia, if required, the ACCC will write to EnergyAustralia to inform it whether the ACCC considers an excluded event has been triggered.

For information only, the ACCC will also publish via its website its letter to EnergyAustralia. It will also place on the website any other information about the identification of needs that is not to be treated as confidential under the code.

Stage 2 Investment appraisal

The ACCC considers that in the past EnergyAustralia has selected the preferred option after considering a high level options analysis. To assess excluded projects the ACCC will be looking to a further level of detail. Its view is that further consideration of the options, their forecast costs, sensitivities and risks for each possible scenario will ensure the most efficient project is selected.

Therefore this stage of the process will include identifying a range of possible options to address the needs identified in stage 1 above. It will also include a regulatory test or, where this is not required, another investment appraisal to determine the most efficient option.

In selecting the preferred solution, EnergyAustralia undertakes two steps in its governance framework, these are:

- develop feasible options
- plan and justify.

The ACCC considers it appropriate to separate this stage of the assessment into the two steps identified by EnergyAustralia. This is discussed as follows.

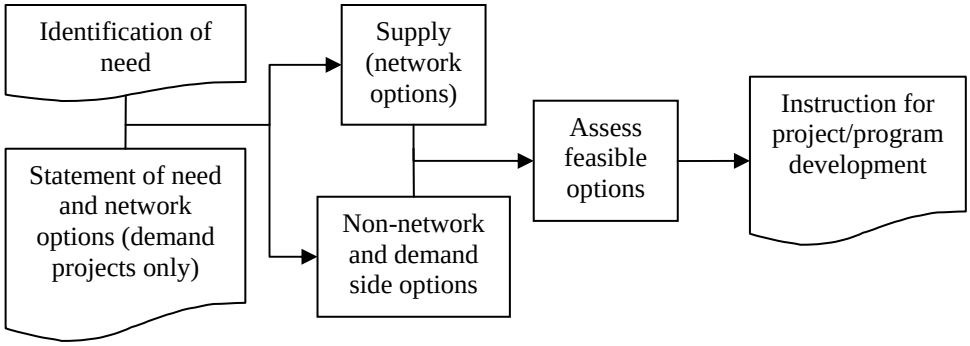
Development of feasible options

In this step (figure C.2) EnergyAustralia will develop a set of feasible options to address the need for the project. These options should include both demand management and network options and include the relevant costs involved. This step is intended to assess the options that require further detailed assessment.

EnergyAustralia's assessment of the feasible options should consider the impact of required environmental and other development approvals. Such approvals will, likely, have an impact on both timing and cost of the options. Therefore without these considerations the most efficient option can not be selected.

The output of EnergyAustralia's governance framework at this step is an instruction for project/program development.

Figure C.2 EnergyAustralia's governance—develop and justify



Plan and justify

EnergyAustralia states that this step involves a set of project offers being made against the instruction for the project/program development. A project offer is a detailed review of an option that the instruction for development indicated required further assessment.

Project offers are assessed to determine that they still satisfy the technical needs. In addition an economic assessment is undertaken to ensure the most efficient option is selected.

The output of EnergyAustralia's governance framework at this step is:

- justification for project selection
- authorisation of selected project.

EnergyAustralia's governance framework indicates that at this step it may only consider one preferred option. The ACCC considers that at this stage it is often too late to make substantial changes to the preferred option. Therefore if only one option is considered in the 'plan and justify' step EnergyAustralia may be forced to select an option that is inefficient.

Proceeding with an inefficient option would be a concern if the 'plan and justify' step demonstrates that the required capex is much more than that forecast in the 'develop feasible options' step. Without detailed assessment of the alternatives, the ACCC can not determine the most efficient option.

Public consultation process

The ACCC will undertake consultation with interested parties throughout the assessment of the excluded project. However in this stage it is likely to be more significant than the other stages. It may also include more consultation than is required by the regulatory test.

In this stage the ACCC is likely to obtain an independent assessment of the excluded project by an appropriate expert.

The public consultation is likely to include a call for interested parties to make written submissions prior to EnergyAustralia finalising its investment decision. Interested parties would be requested to make submissions on any expert advice received.

It might also be appropriate for EnergyAustralia to provide a draft justification of project selection for comment by interested parties.

Stage 3 Setting the incentive

The ACCC will write to EnergyAustralia informing it of the value the ACCC intends to include in the RAB for the period of the incentive. EnergyAustralia would then be free to undertake the remainder of its governance framework, including a final justification of project selection.

In forming an opinion about the value to be included in the RAB the ACCC would consider:

- the issues raised by submissions
- the draft justification of project selection (and EnergyAustralia's considerations up to that point)
- any expert advice the ACCC obtains
- any indicative allowance already provided in the revenue cap.

For information only, the ACCC will also publish via its website its letter to EnergyAustralia. It would also request that EnergyAustralia's final justification of project selection report be placed on the ACCC website for information purposes only.

The incentive that the ACCC designs for each excluded project will include the following for the incentive period:

- the start date of the incentive period
- the end date of the incentive period

- the RAB at the starting date
- the annual profile of the target capex
- the AR, which will comprise of a return of capital and return on the capex
- the RAB at the end date.

Stage 4 Investment in the excluded project

This stage involves the delivery of the project where EnergyAustralia invests in the excluded project according to the capex selected in the regulatory test or other investment appraisal.

EnergyAustralia would then have the ACCC's considerations of the excluded project and would be left to complete the remaining steps of its governance framework. These two steps are to execute the project and then to operate and evaluate the project.

Stage 5 Re-setting the revenue cap

Code changes are necessary to implement the excluded project mechanism outlined in the SRP. In the event that such code changes are not made before the final revenue cap determination for EnergyAustralia, the ACCC proposes to administer the excluded projects identified in this decision in the manner set out below.

Clause 6.2.4(d) of the code limits the circumstances in which a revenue cap can be re-opened. This revenue cap is due to expire on 30 June 2009. Therefore the ACCC provides the following considerations about how it will review the excluded projects when re-setting the revenue cap at that time. The ACCC anticipates the following possible scenario outcomes.

Executed capex is substantially different from the forecast

The ACCC considers that if the execution of the excluded project was **substantially** different to the forecast, adjustments may be required at the reset. This is intended to work symmetrically and only for **extreme** cases. This is a very unlikely scenario and is only mentioned for completeness.

However if this scenario arose, the ACCC would have discretion to adjust the RAB at the next regulatory period. It should be noted that it is intended to protect customers and EnergyAustralia from windfall losses, which would be caused by exogenous events.

The ACCC understands that regulatory discretion causes concerns, however it is the ACCC's strong preference not to exercise this discretion.

Other cases

If the executed capex is not substantially different from the forecast, the considerations at the time of the revenue reset are more procedural and the ACCC would:

- include in the revenue cap an allowance for the AR specified for each year of the incentive period (both before and after the revenue reset). This would ensure that the incentive remains fixed and that it is unaffected by changes in market conditions that may affect the cost of capital.

- roll in the forecast depreciated actual capex into the RAB in the year after the end of the incentive period.

- include any capex that is planned to occur after the end of the incentive period in the ex ante capex allowance at its forecast efficient value.

Timing

The ACCC would like to be able to forecast the amount of time it requires to assess the excluded project, that is, the time required from stage 1 to the completion of stage 3. However this would to a large extent depend on the timing of EnergyAustralia's decision making process.

In its typical decision making process the ACCC would suggest allowing about four weeks for each of the following:

- public submissions

- expert review

- ACCC consideration of all issues and formally providing advice to EnergyAustralia.

The ACCC expects that it would require about four to six months to complete a review of an excluded project, when considering the above processes and information gathering.

The times stated above are intended to provide an indication only. Some of these events could overlap and the length of time required may change. The precise time required will be affected by the regulatory test process in accordance with the code as well as the complexity and scope of the project being reviewed.