

Draft Decision

Statement of Principles for the Regulation of Electricity Transmission Revenues

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Glossary

ACCC	Australian Competition and Consumer Commission
AER	Australian Energy Regulator
Background Paper	Statement of Principles for the Regulation of Transmission Revenues – Background Paper
Capex	Capital and Maintenance Expenditure
CAPM	Capital Asset Pricing Model
code	National Electricity Code
Discussion Paper	Discussion Paper – 2003 Review of Draft Statement of Principles for the Regulation of Transmission Revenues
DORC	Depreciated Optimised Replacement Cost
Draft Background Paper	Draft Statement of Principles for the Regulation of Electricity Transmission Revenues – Background Paper
DRP	Draft Statement of Principles for the Regulation of Transmission Revenue (May 1999)
Draft SRP	Draft Statement of Principles for the Regulation of Electricity Transmission Revenues
Gas Code	National Third Party Access Code for Natural Gas Pipeline Systems
MAR	Maximum Allowed Revenue
MRP	Market Risk Premium
Opex	Operating and Maintenance Expenditure
RAB	Regulated Asset Base
SRP	Statement of Principles for the Regulation of Electricity Transmission Revenues
TNSP	Transmission Network Service Provider
TP Act	<i>Trade Practices Act 1974 (Cth)</i>
WACC	Weighted Average Cost of Capital

Background

Under the National Electricity Code (code), the ACCC is responsible for regulating transmission revenue in the National Electricity Market (NEM).

The code envisaged that the ACCC would publish a *Statement of Regulatory Intent* to establish guidelines as to how the ACCC would perform its regulatory functions. Accordingly, in May 1999, the ACCC released its *Draft Statement of Principles for the Regulation of Transmission Revenue* (DRP). The DRP set out the ACCC's intended approach to setting CPI-X revenue caps for regulated electricity Transmission Network Service Providers (TNSPs).

In August 2003, the ACCC released a Discussion Paper seeking comments on the DRP. The ACCC has now released:

- its *Draft Statement of Principles for the Regulation of Electricity Transmission Revenues – Background Paper* (Draft Background Paper)
- this document, the Draft SRP which is a consolidated version of the revised regulatory principles set out at the end of each chapter of the Draft Background Paper.

Scope of DRP review

Since releasing the DRP, the ACCC has also issued the following documents:

- *Information Requirements Guidelines* (5 June 2002)
- *Transmission Ring-fencing Guidelines* (15 August 2002) and *Reporting Guidelines* (23 October 2002)
- *Service Standard Guidelines* (12 November 2003)
- *Guidelines for the Negotiation of Discounted Transmission Charges* (3 May 2002)
- *Regulatory Test for New Interconnectors and Augmentations* (15 December 1999)
- *Review of the Regulatory Test for Network Augmentations* (11 August 2004)]

The ACCC is not seeking comment, as part of the review of the DRP, on the above documents as these documents are subject to separate processes for review (including public consultation). The documents are at <http://www.accc.gov.au>.

Process for DRP review

Parties are invited to make written submissions to the ACCC on the Draft Background Paper and the Draft SRP. The closing date for submissions is **Friday 22 October 2004**.

This review is taking place at the same time as arrangements for the Australian Energy Regulator (AER) are being implemented. The AER will assume responsibility for this area of regulation. Depending on the timing of its establishment, the Draft SRP and Draft Background Paper may be finalised by the AER. The ACCC expects it (or the AER) will release a final version of the Background Paper and SRP by early 2005.

Submissions can be sent electronically to: electricity.group@accc.gov.au

Alternatively, submissions can be sent to:

Mr Sebastian Roberts
General Manager
Regulatory Affairs – Electricity
Australian Competition and Consumer Commission
GPO Box 520J
Melbourne VIC 3001

The ACCC prefers that all submissions be publicly available to foster an informed, transparent and robust consultative process. Submissions will be treated as public documents unless otherwise requested. Parties wishing to submit confidential information are asked to:

- clearly identify the information that is the subject of the confidentiality claim; and
- where only part of the submission is confidential, provide a non-confidential version of the submission.

All non-confidential submissions will be placed on the ACCC's website
<http://www.accc.gov.au>.

Any enquiries about the Draft SRP and/or Draft Background Paper, or about making submissions, should be directed to Sarah Clancy on (03) 9290 1982 or Renate Vogt on (03) 9290 1969.

1. Introduction

1.1 Purpose

This document, *Draft Statement of Principles for the Regulation of Electricity Transmission Revenues* (Draft SRP), sets out the Australian Competition and Consumer Commission's (ACCC's) general approach to setting revenue caps to apply to Transmission Network Owners and Transmission Network Service Providers (TNSPs) under clause 6.2.4 of the National Electricity Code (code).

1.2 Application

The Draft SRP and SRP are intended to set out the ACCC's general approach to setting revenue caps under clause 6.2.4 of the code. Like the DRP, neither the Draft SRP nor the SRP form part of the code or are instruments made pursuant to the code. Accordingly, the application of the Draft SRP and SRP to particular TNSPs will depend on the individual circumstances of the case. The ACCC will depart from the Draft SRP and SRP where required or justified by the code provisions.

As with the DRP, it is envisaged that the approach set out in the SRP will continue to evolve in response to factors such as code amendments, changes in the industry, and improvements in regulatory models and best practice worldwide.

1.3 Transition to Draft SRP

Although the ACCC is seeking submissions on the Draft SRP, TNSPs that submit a revenue cap application after the release of the Draft SRP should refer to the Draft SRP rather than the *Draft Statement of Principles for the Regulation of Transmission Revenues* issued by the ACCC on 27 May 1999 (DRP). However, where the relevant TNSP is subject to a revenue cap set prior to the release of the Draft SRP, the following transitional issues apply:

- the approach outlined in chapter 5 of this Draft SRP in relation to capex would only apply to the treatment of forward capex. The valuation of past capex for the purpose of the next revenue cap reset for that TNSP would be guided by chapter 5 of the DRP and Appendix B of the Draft SRP
- the approach outlined in chapter 6 of this Draft SRP in relation to opex would only apply to the treatment of forward opex. The treatment of past opex for the purpose of the next revenue cap reset for that TNSP would be guided by chapter 7 of the DRP.

1.4 Structure of Draft SRP

The ACCC's general approach to setting revenue caps is further outlined in the following chapters:

- Chapter 2 Regulatory Framework
- Chapter 3 Revenue Cap Decision Making Process
- Chapter 4 Asset Base
- Chapter 5 Incentive Framework for Capital Expenditure
- Chapter 6 Incentive Framework for Operating and Maintenance Expenditure
- Chapter 7 Weighted Average Cost of Capital
- Chapter 8 Financial indicators
- Appendix A Information Requirements
- Appendix B Transitional Capital Expenditure Arrangements

2 Regulatory framework

2.1 Introduction

This section describes the broad framework which, in general, will be used by the ACCC for regulating transmission revenue.

2.2 Form of regulation

Clause 6.2.4(a) of the code provides that economic regulation is to be of the CPI minus X form or some incentive-based variant. In applying this form of regulation, clause 6.2.4(b) requires the ACCC to set a revenue cap to apply to each TNSP for a regulatory control period (being a period of at least five years). In setting the maximum allowed revenue for the regulatory control period, the ACCC makes use of the “building block model” to ensure that the expenditures of the firm are correctly amortised over time.

2.3 Building block approach

The building block approach is used to ensure that the expenditure of each TNSP is appropriately amortised over time in such a way as to ensure that each TNSP, given efficient expenditure practices and decisions, is adequately compensated for the cost of providing the transmission services to customers in the long-run.

The building block model consists of two equations which are known as the “revenue equation” and the “asset-base roll-forward” equation. These two equations, used together, determine an allowed stream of revenues for each TNSP for as long as it remains regulated. Ignoring any incentive rewards or penalties, these equations together ensure that the present value of the allowed revenue stream is equal to the present value of the expenditure stream of the regulated firm.

Expressed in the simplest form, the building block equations are as follows:

$$\begin{aligned} MAR &= \text{return on capital} + \text{return of capital} + \text{opex} + \text{tax} \\ &= (WACC * RAB) + D + \text{opex} + \text{tax} \end{aligned}$$

and

$$\text{New RAB} = \text{previous RAB} - \text{depreciation} + \text{capex}$$

Where:

<i>MAR</i>	=	<i>maximum allowable revenue</i>
<i>WACC</i>	=	<i>post-tax nominal weighted average cost of capital</i>
<i>RAB</i>	=	<i>regulatory asset base</i>
<i>D</i>	=	<i>depreciation</i>
<i>opex</i>	=	<i>operating and maintenance expenditure</i>
<i>tax</i>	=	<i>expected business income tax payable</i>

A description of each of these cost components the outlined below:

Regulatory Asset Base (RAB)	The regulatory asset base is a stock of funds which reflects the total amount (in present value terms) which must be returned to investors in the future to compensate them for investments made in the past
Cost of capital (WACC)	The cost of capital is the rate of return required by investors to induce them to commit funds to the TNSP. The required rate of return will depend on the riskiness of the returns of the TNSP relative to other risky assets and the return on risk-free assets.. TNSPs are funded using a combination of debt and equity. The rate of return required by investors to induce them to purchase the debt and equity of the TNSP will be different, reflecting the different risks of these two financial instruments. The required rate of return for the firm as a whole (also known as the cost of capital) is the weighted average of the required rate of return on debt and equity and is referred to as the Weighted Average Cost of Capital (WACC).
Depreciation (return of capital)	Depreciation is a flow of funds which returns to investors the “capital” component of the funds they commit to the TNSP (as distinct from the return on that capital). The total amount of depreciation of the firm must be equal to its total stock of capital expenditure over the life of the firm.
Operating and maintenance expenditure (opex)	The expenditures of the TNSP which are not amortised over time – i.e., which are recovered in revenue in the year in which they are incurred.
Capital expenditure	The expenditures of the TNSP which are amortised over time – i.e., which are added to the regulatory asset base, earn a return on capital as long as they are in the regulatory asset base and which are recovered over time through the depreciation stream.
Tax liabilities	In the “post tax” framework, the firm’s tax liabilities are treated as a separate expenditure item.

2.4 Incentive regulation

An objective of the regulatory regime is to foster efficient investment and operating practices within the transmission sector, and to provide for an equitable allocation between TNSPs and users of expected efficiency gains.

The efficiency incentives are incorporated in the building block model through service standards, opex and capex incentive schemes. This can be expressed in a more precise version of the building block model equations as follows:

$$\text{Forecast Revenue} = \text{return on capital} + \text{return of capital} + \text{opex} + \text{tax} \\ + \text{service standards incentive scheme} + \text{opex incentive scheme}$$

$$\text{Closing RAB}_{t-1} = \text{Opening RAB}_{t-1} + \text{Actual Capex}_{t-1} - \text{Depreciation} \\ \text{Allowance}_{t-1} + \text{capex incentive scheme}$$

Service standards incentive scheme

In addition to the statutory reliability requirements in each participating jurisdiction, the incentive to improve service standards is provided by the service standards scheme set out in the ACCC's *Service Standard Guidelines* (12 November 2003).

Opex incentive scheme

The incentive to increase the efficiency of operating and maintenance practices is provided by:

- (a) allowing the TNSP to retain, during a regulatory control period, the difference between its actual opex and the forecast costs used to set the revenue cap
- (b) the mechanism by which the ACCC takes into account past expenditure out-turns when setting future expenditure targets
- (c) the carry-forward mechanism.

Capex incentive scheme

The incentive to reduce capital expenditure is provided by:

- (a) in the case of projects within the ex ante capex cap, allowing the TNSP to retain, during the regulatory control period, the difference between forecast and actual return on capital and depreciation for the component of the RAB that relates to forecast capex. This provides the TNSP with an incentive to reduce its expenditure for projects within the cap
- (b) in the case of projects that are excluded from the ex ante capex cap, assessing, on an ex ante basis, the amount of capital that will be allowed in the RAB in the next revenue cap reset and

allowing the TNSP to retain the difference between the allowed amount and the actual expenditure ex post.

2.5 Certainty and consistency

An objective of the regulatory regime is to provide certainty and consistency for TNSPs and users.

The ACCC's preferred position, when resetting a revenue cap, is to adopt the opening RAB from the previous regulatory period (described as the "lock-in" approach).

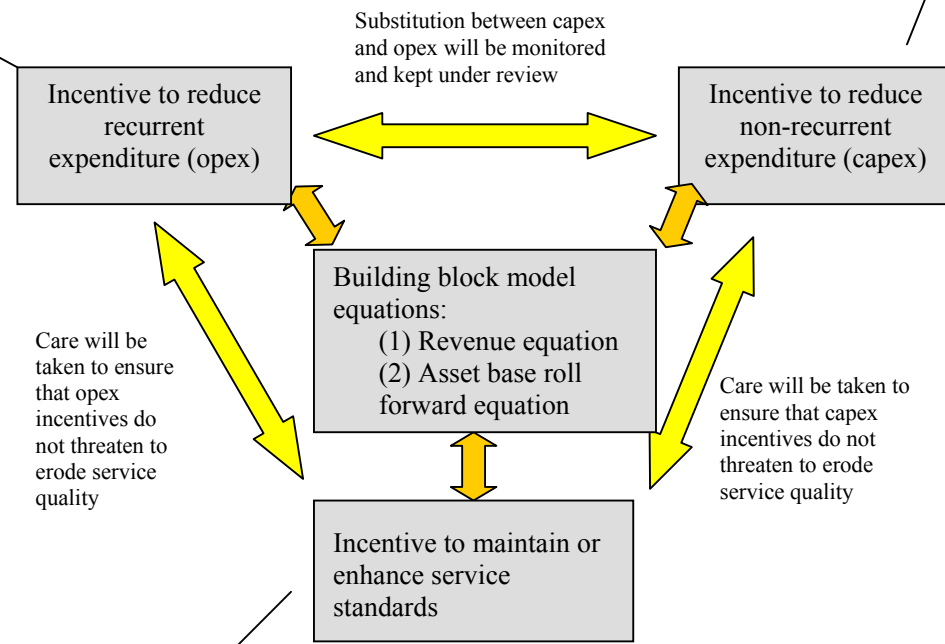
Opex Incentive Scheme:

Revenue is fixed for five years at a time, allowing firm to profit by any reduction in opex that occurs during the regulatory period.

At the end of the regulatory period, the new opex revenue targets are set for the subsequent regulatory period taking into account historic out-turns, future demand forecasts and service standards requirements.

Efficiency carry-forward mechanism will be used.

ACCC's Framework for the Regulation of TNSPs



Capex Incentive Scheme:

For the project-specific allowance the projects are pre-approved by the regulator. The TNSP has strong incentives to carry out these projects at least cost.

For the non-project-specific allowance, there are some incentives to reduce capex below the level set in the ex ante cap. TNSPs will choose to meet minimum reliability standards in a way that minimizes overall cost.

Ex ante cap is set taking into account historic out-turns, future demand forecasts and service standards requirements.

Service Standards Incentive Scheme:

TNSPs face statutory reliability obligations. In addition TNSPs are rewarded +/-1% for meeting reliability targets. ACCC is developing further a market-based service standards scheme.

3 Revenue Cap Decision Making Process

3.1 Introduction

This section describes the process and timetable that the ACCC intends to follow when setting or resetting a revenue cap under clause 6.2.4(b) of the code. The process and timetable may be adjusted by the ACCC where the process is not prescribed by the code and the particular circumstances justify a departure. Figure 3.1 outlines the proposed ACCC regulatory review procedure.

3.2 Submission of application

The TNSP must submit a revenue cap application by 1 April of the penultimate year of the regulatory control period.

The application must comply with the information requirements set out in the Information Requirements Guidelines and should also contain the information set out in Appendix A of the Draft Background Paper.

Within four weeks of receipt:

- the ACCC will review the application for compliance with the *Information Requirements Guidelines* and Appendix A of the Draft Background Paper
- the ACCC will review any accompany requests that all or part of the application remain confidential (the procedure that will be followed is set out below under “Confidentiality”)
- if the ACCC is not satisfied, the ACCC will provide written notice to the TNSP
- the TNSP should resubmit the application addressing the issues outlined in the notice.

As TNSPs are required to publish their transmission prices by 15 May, it is important that any issues concerning the application be resolved within this four week period. If an issue is not resolved expeditiously, the ACCC may need to consider using its compulsory powers under clauses 6.2.5 and 6.2.6, or basing its revenue cap decision on assumptions drawn by the ACCC.

3.3 Public consultation process

The ACCC will notify interested parties of the application and will:

- describe the TNSP to which the application relates
- state how copies of the non-confidential parts of the application may be obtained
- request submissions by a date specified in the notice.

The commencement of the ACCC's assessment of the application will be effective from the date of publication of the notice.

3.4 Submissions

The ACCC will call for submissions to be submitted within six weeks from the publication of the notice, and six weeks after publication of any consultants' reports.

If a party wishes to provide a submission after the closing date, the party must notify the ACCC prior to the closing date. The notification must set out:

- the date by which the party proposes to provide the submission
- the key arguments or issues to be addressed in the submission
- the reason for the lateness
- the detriment if the ACCC does not consider the submission.

The party will then be advised as to whether the ACCC will receive and consider the submission.

3.5 Confidentiality

All submissions and other documents (except those containing information provided by a TNSP under clause 6.2.5 of the code) will be treated as public documents and placed on the public register unless otherwise requested. If a party wishes to claim confidentiality with respect to all or part of a document, the party must:

- clearly identify the information that is the subject of the confidentiality claim
- where only part of a document is confidential, provide a non-confidential version of the document for the ACCC's public register. This version must clearly indicate where information has been deleted due to confidentiality.
- set out the reasons in support of the confidentiality claim.

The request for confidentiality will be assessed by ACCC. If the request is not accepted, the document (or relevant part of the document) will be returned to the party and will not be taken into account by the ACCC.

Where the document (such as the revenue cap application) contains information provided by a TNSP pursuant to clause 6.2.5, the TNSP should:

- clearly identify the information that is provided pursuant to clause 6.2.5
- indicate whether the TNSP consents to the disclosure of that information
- if consent is not granted, provide reasons as to why disclosure is refused (to assist the ACCC in deciding whether to issue a written notice under clause 6.2.6(c))
- if consent is not granted in relation to part of a document, provide a non-confidential version of the document for the ACCC's public register. This version should clearly indicate where information has been deleted due to confidentiality.

If consent is not granted, the ACCC will review the refusal and decide whether to follow the procedure set out in clause 6.2.6.

3.6 Assessment of the application and Draft Decision

The ACCC will assess the application against the relevant code provisions including clauses 6.2.2, 6.2.3 and 6.2.4.

In accordance with clause 6.2.6(a), the ACCC will publish full and reasonable details of the basis and rationale for the proposed decision, including but not limited to:

- reasonable details of qualitative and quantitative methodologies applied including any calculations and formulae
- the values adopted for each of the input variables in any calculations and formulae, including a full description of the rationale for adoption of those values
- reasonable details of other assumptions made in the conduct of all material qualitative and quantitative analyses undertaken in relation to the setting of a revenue cap or related matter
- full reasons for all material judgements and qualitative decisions made and options considered, and all discretions exercised which have a material bearing on the outcome of the ACCC's overall decision.

3.7 Public forum and consultation

Any interested party who wishes to comment on the ACCC's Draft Decision may request a public forum within two weeks of the release of the Draft Decision.

If the ACCC decides to hold a public forum, the forum will be held within one month of the request date.

Interested parties may make submissions following the release of the Draft Decision and the public forum.

Submissions must be provided within six weeks of the release of the Draft Decision or, if a public forum is held, two weeks after the forum. The procedure that the ACCC will follow in relation to late submissions and confidentiality claims is set out under "Submissions" and "Confidentiality".

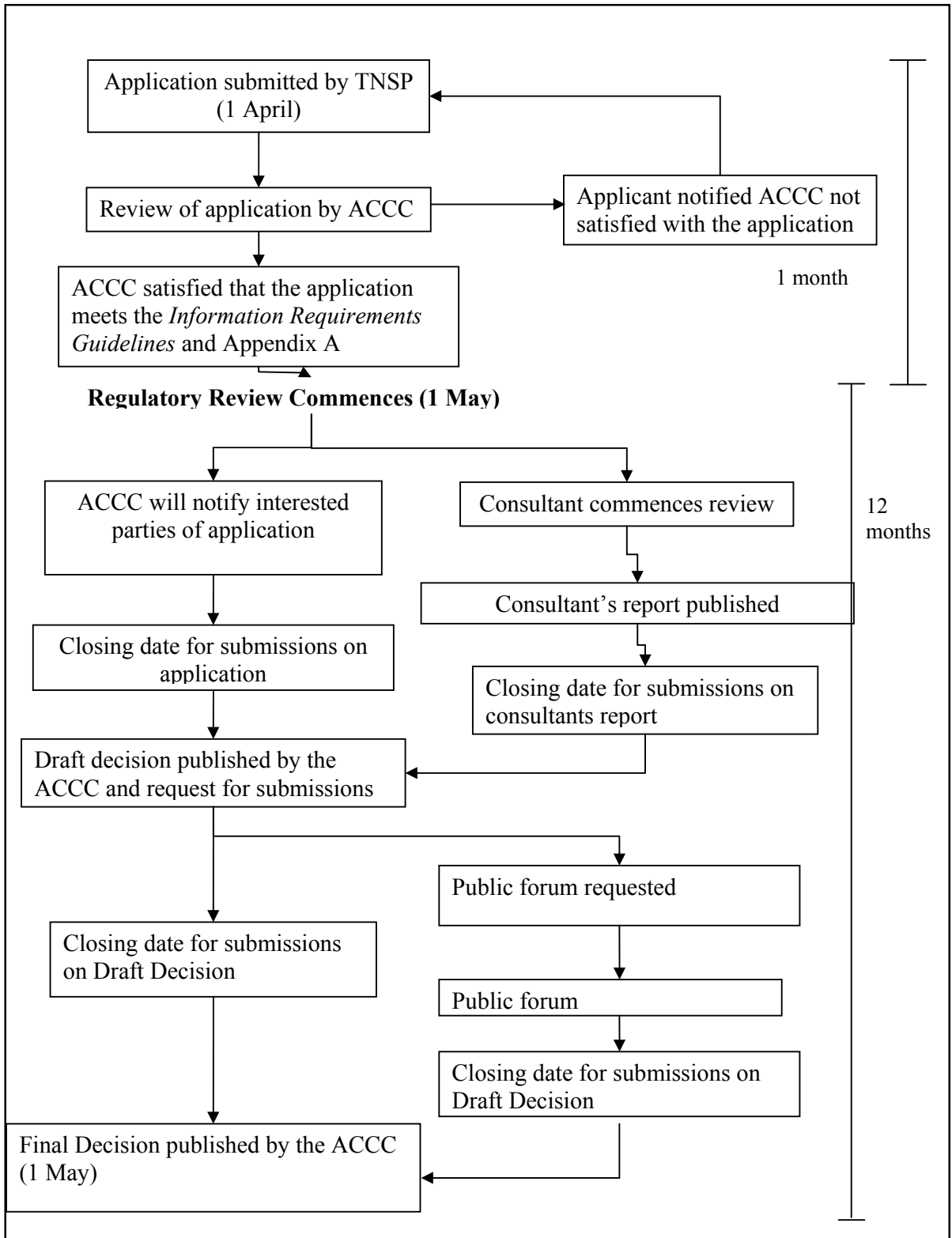
3.8 Final Decision

The ACCC will release the Final Decision on the application by 1 May of the final year of the regulatory control period.

The Final Decision will satisfy the matters set out in "Assessment of the Application" and "Draft Decision".

The process and timetable may be adjusted by the ACCC where the process is not prescribed by the code and the particular circumstances justify a departure.

Figure 3.1: Proposed ACCC Regulatory Review Procedure



4 Asset Base

4.1 Introduction

This section sets out the ACCC's approach to the lock-in of the asset base (also referred to as the "asset-base roll-forward") to determine an opening RAB for the regulatory period.

4.2 Lock-in

The ACCC's approach to asset valuation will be to lock-in the RAB, consistent with the reasoning outlined in this section. Noting that the code provides the discretion to revalue assets in service before (existing assets) and after (new assets) 1 July 1999, the ACCC considers that it would be highly desirable to amend the code to formalise the lock-in approach to asset valuation. This would provide greater certainty for investment and would be consistent with the asset valuation approach contained in the National Third Party Access Code for Natural Gas Pipeline Systems (Gas code).

4.3 Lock-in of asset base to determine an opening RAB for the regulatory period

Under the ex-post framework (which will apply to all capex incurred during the first regulatory control period) the lock-in approach operates as follows:

- a) At the beginning of the period the regulator forecasts a level of capex and chooses a level of (forecast) depreciation by a methodology (such as "straight line depreciation)
- b) At the end of the regulatory period the regulator accepts the closing RAB from the previous period. Further, the regulator observes the capex out-turn and makes a decision as to the amount of capex and depreciation that will be rolled into the RAB. The RAB is then updated using a version of the equation below. Namely:

$$\text{Closing } RAB_{t-1} = \text{Opening } RAB_{t-1} + \text{Actual Capex}_{t-1} - \text{Depreciation Allowance}_{t-1} + \text{capex incentive scheme}$$

Under the proposed ex-ante framework, the lock-in approach operates as follows:

- a) At the beginning of the period the regulator will set a cap on investment over the period of control and choose a level of (forecast) depreciation by a methodology (such as “straight line” depreciation)
- b) At the end of the regulatory period the regulator accepts the closing RAB from the previous period. Further, the regulator will roll into the RAB the lower of the present value of the total actual investment in that period and the present value of the profile of annual expenditure specified by the ex-ante cap. The RAB is then updated using a version of the equation as above.

For depreciation the ACCC will adopt:

- a straight-line depreciation approach. The ACCC has the discretion to adopt an annuity depreciation scheme which can respond to changes in demand and costs i.e. the stranding of assets.
- the forecast depreciation in determining the opening asset base.

The ACCC will determine the opening RAB for the regulatory period based on actual inflation.

5 Incentive Framework for Capital Expenditure

5.1 Introduction

The ACCC proposes to adopt capital expenditure incentives focused, as far as possible, on the determination at the start of the regulatory period of an efficient level of capex for the duration of the regulatory period. The proposed incentive design consists of three elements:

- An ex ante cap: this will cover most or all expected investments during the regulatory period and will establish a cap on the level of investment, during the regulatory period to be included in the regulatory asset base at the end of that period
- A mechanism for separate, project- specific regulation for very large and uncertain investments
- An “off-ramps” mechanism if unexpected events cause capital expenditure blow-outs during the regulatory period.

5.2 Ex ante cap

The ex ante investment cap should cover most or all expected investment during the period of a regulatory control, including more discretionary investment not related to statutory reliability obligations. The cap will be determined on the basis of a probabilistic assessment of expected investments during the regulatory period. However, the cap does not entail project-specific approval and although an expected project may have been included in the determination of the cap, this does not oblige the TNSP to develop that project during the regulatory period.

The ACCC expects TNSPs to propose the form of the cap suited to their circumstances. It is expected that in most cases the cap will reflect the change in total investment in response to a change in the main investment drivers. TNSPs are expected to provide quantified analysis of the relationship between any cost drivers (such as growth in peak demand) and the resulting investment requirement. The proposals would also need to establish how the relevant parameters will be measured and audited.

In respect of investments covered by the ex ante cap, the calculation of the closing RAB at the end of the regulatory control period will be the lower of the present value of the total actual investment in that period and the present value of the profile of annual expenditure specified by the ex ante cap.

5.3 Significant but uncertain (excluded) investment

The ACCC proposes to exclude a project from the ex ante cap if the expected error presented by the inclusion of that project in the cap – quantified in terms of the revenue required to cover depreciation and the return on investment in that project - is equal to more than 10% of the revenue required to cover depreciation and return on investment of all projects included in the calculation of the ex ante cap.

The TNSP can apply to the ACCC for specific projects to be excluded from the ex ante cap, even where this value threshold is not satisfied. It will be at the ACCC's discretion as to whether these projects will be considered as excluded projects.

Projects excluded from the ex ante cap must be linked to unique investment drivers – such as a major point load or expected power station – rather than to general investment drivers (such as expectations of load growth within a region).

In the calculation of the MAR, an allowance for expenditure on excluded projects during the regulatory control period could be made on the basis of the expected value of the expenditure (i.e. the product of the probability of the project proceeding and the expected cost of the project). If such an allowance is made, then at the end of the regulatory period an adjustment will need to be made to the RAB depending on whether or not the excluded project was developed.

The choice of whether to make an allowance in the calculation of the MAR should be driven by concerns over the path of prices, and TNSPs' cash flow requirements over the period of a five year control. The ACCC will ensure that in present value terms there is no benefit or detriment, whether or not an allowance was made at the start of the regulatory period for any excluded projects.

5.4 Off ramps

An “off-ramps” event is a possible but unlikely exogenous event that occurs during the regulatory period. While provision may have been made (in the ex ante cap) to prevent or mitigate the impact of such events, no specific allowance will have been made for efficient investment that may be needed if such an event occurs. Typical “off-ramps” events will include commonly defined force majeure events but may also include other defined events, such as changes in taxation legislation or changes in applicable service standards. The ACCC expects that “off-ramps” events will need to be defined in consultation with TNSPs at the time of their revenue reset decision. The ACCC notes, however, that changes in trend events will not be considered under the “off-ramps” provisions.

An “off-ramps” event can be invoked by a TNSP, ACCC or third party.

If the cost of the event during the period of a regulatory control exceeds 5% of the capex allowance for the regulatory period, this cost will be recoverable from consumers.

When a TNSP notes that an “off-ramps” event has occurred, it should develop the specification and cost of the project that it considers is needed to efficiently invest in response to that event. The ACCC will consider the need for the investment and whether the proposed project/s most efficiently meets that need. Once the ACCC is satisfied that the proposed investment is efficient, this will be officially communicated to the TNSP.

5.5 Arrangements applicable to separate network planners and owners

The ACCC proposes to set an ex ante cap for those businesses which own, operate and maintain the transmission network in Victoria. However, as these businesses are not responsible for augmenting the transmission network, the ACCC does not propose to exclude any projects from the cap.

VENCorp’s revenue cap will continue to be set by the ACCC with reference to its operating budget and the likely augmentations required for the efficient operation of the Victorian network.

6 Incentive Framework for Operating and Maintenance Expenditure

6.1 Introduction

This section sets out the ACCC's general approach to providing incentives on the TNSP to reduce its operating and maintenance expenditure.

6.2 Benchmarking

The ability of the ACCC to make use of high-powered incentives to reduce expenditure depends on developing high-quality indicators of the likely expenditure requirements of each TNSP which are independent of the costs actually incurred by each TNSP. One approach is to make use of industry-wide measures of cost, efficiency and productivity changes. This approach is informally known as "benchmarking".

To facilitate greater use of benchmarking data in determining the opex allowance to be included in a revenue cap, the ACCC intends to establish a working group by April 2005 to benchmark the performance of TNSPs and report by October 2006. A decision will then be made as to what extent these benchmarks can be taken into consideration in subsequent revenue cap decisions.

In the interim the ACCC will continue its current practice of relying primarily on historic and forecast expenditures for the TNSP in question in each revenue cap decision.

6.3 Incentives to reduce operating expenditure

Under the approach to regulation set out in this document, the incentive on TNSPs to reduce operating expenditure derives from three different factors:

- (a) the fact that the ACCC will not "claw-back" any differences between forecast and out-turn operating expenditure which arise during the regulatory period;
- (b) the manner in which the ACCC makes use of information on past expenditure out-turns when setting future expenditure targets;
and
- (c) the carry-forward mechanism.

The ACCC has decided that for a variety of reasons it will not commit, at this stage, to a mechanistic or formulaic approach to making use of past expenditure information when setting future expenditure targets.

6.4 The carry-forward mechanism

The efficiency gain or loss in a year may be expressed mathematically as:

$$E_t = (A_{t-1} - A_t) - (F_{t-1} - F_t),$$

where

E_t is the efficiency benefit/loss in year t ,

A_t, A_{t-1} is the actual operating cost for year $t, t-1$ respectively,

F_t, F_{t-1} is the forecast operating cost for the years $t, t-1$ respectively.

The efficiency benefit/loss will be carried forward for five years after the year in which the benefit/loss is incurred.

During the regulatory period in which the efficiency benefit/loss is incurred, the carry forward mechanism does not affect the annual opex allowance. The opex allowance for the next regulatory control period will be based on:

- the expected efficient costs (determined after taking into account past opex and reasons as to why future opex may be different from past opex
- plus/minus the carry-forward of the efficiency benefit/loss from the previous regulatory control period.

Since the actual opex for the last year of the regulatory control period will usually not be known at the time when the revenue cap is set for the next regulatory control period, the carry-forward of losses or gains will be incorporated through the use of a correction mechanism.

The efficiency carry-forward calculation will be undertaken in such a way as to ensure inflation does not erode the value of any benefit/loss to be retained by the TNSP.

6.5 Relationship with Other Incentive Schemes

The ACCC considers that the incentive schemes described here will give rise to some incentives on each TNSP to reduce its operating expenditure. The intention is for this incentive to be broadly balanced with the incentive to reduce capital expenditure. The ACCC will continue to monitor outcomes to ensure that a reduction in operating expenditure is not achieved at the cost of an increase in capital expenditure or vice versa.

At the same time, the ACCC is concerned to ensure that any reduction in operating expenditure does not come at the expense of a reduction in service quality or reliability. The ACCC will continue to monitor outcomes to ensure that any reduction in operating expenditure is not achieved at the expense of service quality.

6.6 Self-insurance

The ACCC recognises that it may, on occasion, be efficient for a TNSP to self-insure against certain risks. This section seeks to ensure that there is not a systematic bias against self-insurance (for which the annualised costs are more difficult to assess) compared with third-party insurance (for which observing the efficient costs is more straightforward).

If a TNSP seeks to include, in its opex, an allowance for self-insurance, it should set out its proposed allowance in its revenue cap application. The ACCC considers that the following matters should, in general, be established prior to accepting a self-insurance application:

1. confirmation of the board resolution to self-insure (i.e. a copy of the signed minutes recording the resolution made by the board minutes)
2. confirmation that the TNSP is in a position to undertake credibly self-insurance for the event
3. self-insurance details setting out the categories of risk for which the TNSP has resolved to self-insure
4. a report from an appropriately qualified insurance consultant verifying the calculation of risks and corresponding insurance premiums
5. confirmation that the risk is not already compensated for in the forecast opex or other revenue cap costs
6. confirmation that the allowance takes account of positive asymmetric risks as well as negative.

6.7 Pass through

In some circumstances it will be more appropriate for certain risks to be borne by customers rather than by the TNSP. For this reason the ACCC allows the TNSP to pass through the costs of certain pre-agreed events.

If a TNSP seeks to include a pass through mechanism in its revenue cap, it should set out its proposed pass through rules in its revenue cap application (including definitions of the proposed pass through events). To assist TNSPs, the ACCC has developed a standardised set of pass through rules. Prior to submitting its revenue cap application, the TNSP should obtain a copy of the most recent version of the rules from the ACCC.

In general, a pass through event should have the following characteristics:

1. it should be identified in advance with its scope precisely defined
2. it should be beyond the control of the TNSP
3. its financial impact should be better borne by parties other than the TNSP
4. it should affect the TNSP, but not the market generally
5. it should not already be compensated for in the forecast opex or other revenue cap costs
6. it should not be more efficient for the TNSP to insure against the risk
7. its financial impact should be material.

The pass through rules to be included in the revenue cap should in general have the following features:

1. the pass through rules form part of the revenue cap. Any pass through amount determined under the rules forms part of the MAR determined by the revenue cap
2. the rules should accommodate both positive and negative pass through amounts
3. provision by the TNSP, in support of any pass through application, of documentary evidence which substantiates that the aggregate costs facing the TNSP have increased or decreased as a consequence of the claimed pass through event. Wherever possible, the documents should also be provided in the public domain
4. a requirement on the TNSP to provide annually to the ACCC a copy of insurance policies, cover notes and premium invoices, irrespective of whether a pass through event application has been submitted in that year
5. a two month assessment period (which can be extended where necessary) including provision for public consultation by the ACCC.

In general, the ACCC would expect the pass through rules proposed by a TNSP to be consistent with the standardised set of pass through rules, except where justified by reference to the code provisions or the particular circumstances of the TNSP.

7 The Weighted Average Cost of Capital

7.1 Introduction

This section sets out the ACCC's view on each of the parameters of the WACC. As part of the review of the DRP the ACCC has taken various measures such as through its decision on WACC to increase certainty of investment for TNSPs. The ACCC proposes to continue to establish the WACC on the basis of benchmark parameters such as the market risk premium, the equity beta and the risk free rate. Consistency of regulatory approach is intended to increase certainty in investment. However the ACCC reserves the right to change the value of the WACC parameters with refinement in the methodology and data.

The WACC is expressed as the weighted average of the return on equity and the return on debt:

$$WACC = r_e (E/V) + r_d (D/V)$$

where:

r_e = required rate of return on equity or cost of equity

r_d = cost of debt

E = market value of equity

D = market value of debt

V = market value of equity plus debt.

7.2 Weighted Average Cost of Capital

The ACCC will determine a WACC that provides a fair and reasonable rate of return applicable to TNSPs.

7.3 Capital Asset Pricing Model

The ACCC will use the CAPM to estimate the cost of equity capital. As illustrated in the following formula, CAPM yields the required expected return on equity given the return on the market portfolio, the market's

own volatility and the systematic risk of holding equity in the particular company:

$$r_e = r_f + \beta_e(r_m - r_f)$$

where:

$$r_f = \text{expected risk free rate of return over the period}$$

$$(r_m - r_f) = \text{expected market risk premium (MRP), defined by the expected premium of return of the market (} r_m \text{) as a whole over the risk free return for the same period}$$

$$\beta_e = \text{a measure of investors' perceived systematic risk of the individual company's equity relative to the market.}$$

7.4 Risk free rate

Term to maturity of risk free rate

The ACCC will adopt a 10-year government bond rate as a proxy for the risk free rate.

Length of period used in moving average of risk free rate

The ACCC will accept the period used to calculate the moving average of the risk free rate (between 5 and 40 days) submitted by a TNSP in its application.

7.5 Market risk premium

The ACCC will:

- use a value of 6 per cent for the MRP in its TNSP revenue cap decisions
- monitor the available research and reserve the right to change the value of the MRP with refinement in the methodology and data.

7.6 Equity beta

The ACCC will:

- apply an equity beta of 1.0

- monitor empirical evidence and reserve the right to change the value of the equity beta with refinement in the methodology and data.

7.7 Cost of debt

In determining the cost of debt, which comprises the debt margin and the risk free rate, the ACCC will:

- use a 10-year government bond rate as a proxy for the risk free rate
- calculate a benchmark debt margin, corresponding to a 10-year term and a benchmark A credit rating for a TNSP.
- monitor empirical evidence and reserve the right to change the value of the credit rating with refinement in the methodology and data.

7.8 Gearing

The ACCC will:

- maintain the use of a gearing level at 60 per cent for a benchmark TNSP
- monitor the available market evidence and reserve the right to change the gearing level with refinement in the methodology and data.

7.9 Gamma

The ACCC will:

- use an average gamma of 0.5
- monitor market developments and reserve the right to change the value of gamma with refinement in the methodology and data.

7.10 Debt and equity raising costs

The ACCC will:

- treat debt and equity raising costs as opex items
- undertake a further review of debt and equity raising costs and hedging costs.

8 Financial Indicators

8.1 Introduction

This chapter sets out the ACCC's use of financial indicators when setting a revenue cap. A financial indicator is a measure of a TNSP's financial viability and ability to obtain credit.

8.2 Financial Indicators

In general, the ACCC will use the following financial indicators, compared to the key indicators used by Standard & Poor's, to assess the effect of revenue cap decisions on the financial viability of TNSPs:

- EBIT to revenues (per cent)
- EBITD to revenues (per cent)
- EBIT to funds employed (per cent)
- EBIT to regulated assets
- pre-tax interest cover
- funds flow net interest cover
- internal financing ratio
- gearing
- payout ratio

Appendix A Information Requirements

A.1 Introduction

This Appendix A sets out the additional information that a TNSP should include in its revenue cap application with respect to:

- (a) asset base roll forward
- (b) past capital expenditure
- (c) forecast capital expenditure
- (d) operating and maintenance expenditure
- (e) weighted average cost of capital.

A.2 Asset base roll forward

- (a) For revenue cap resets, the TNSP should prepare a schedule that rolls forward its asset values from the date of the last revenue cap decision to the end of the current regulatory control period (see Chapter 4 of the Background Paper).
- (b) The roll forward schedule should set out the following:
 - (i) opening asset values at the start of the current regulatory control period broken down into individual asset classes
 - (ii) forecast and actual capex broken down into the same asset classes
 - (iii) forecast and actual disposals broken down into the same asset classes
 - (iv) forecast depreciation broken down into the same asset classes
 - (v) actual CPI adjustment for each asset class
 - (vi) closing asset values for each asset class at the end of the current regulatory period.

A.3 Past capital expenditure

- (a) For revenue cap resets, the TNSP should provide:
 - (i) information on actual capex projects undertaken over the course of the current regulatory control period
 - (ii) a comparison between the actual capex projects built in the regulatory control period and those forecast in the revenue cap decision
 - (iii) an explanation for any variations between forecast and actual expenditure.
- (b) In relation to:
 - (i) reliability augmentations that:
 - (1) exceed \$10 million, the TNSP should supply the regulatory test applications
 - (2) cost between \$1 and \$10 million, the TNSP should provide the annual planning report which sets out its regulatory test assessments of these projects
 - (ii) replacement/refurbishment capex, the TNSP should provide details on:
 - (1) its overall asset management processes and procedures
 - (2) how its individual investment decisions fit within this strategy
 - (iii) large replacement projects (that is, projects exceeding \$10 million), the TNSP should provide an explanation as to why the asset needed replacing (including comprehensive condition based assessments)
 - (iv) business support capex (for example, information technology and communications), the TNSP should provide a comprehensive and robust assessment of the need for these investments (including a business case showing the analysis undertaken to support the investment).

A.4 Forecast capital expenditure

(a) Introduction

In contrast to an ex-post capex regime, an ex-ante regime places greater emphasis on conducting a rigorous review of forecast investment before the investment is undertaken. This increases the information required in a TNSP's revenue cap application (see Chapter 5 of the Background Paper).

(b) The TNSP should include in its revenue cap application a clear statement outlining:

- (i) expected investment
- (ii) the factors affecting the need for the investment.

(c) The forecast capex costs should be rigorous and as accurate as possible. Where forecasts cannot be supplied to a precise standard, this should be highlighted and an explanation provided.

(d) In relation to reliability augmentations, the TNSP should categorise its investments into the following groups:

- (i) projects under construction
- (ii) projects very likely to be built
- (iii) possible projects (not identified above).

(e) In relation to each forecast project, the TNSP should provide:

- (i) a detailed description of the project
- (ii) the regulatory test application (if one has been conducted)
- (iii) details on why the project is required
- (iv) the timing and costs of the project (and how these were derived)
- (v) details on the options considered in addition to the preferred option (including the estimated cost of the alternative options considered)
- (vi) the methodology and analysis used to select the preferred option.

- (f) In relation to projects that are neither under construction at the time of the revenue cap application nor very likely to be built, the TNSP should provide details on:
 - (i) the methodology used to forecast these projects (including their estimated cost)
 - (ii) any scenario modelling utilised in developing the TNSP's forecast capex plans.
- (g) In relation to replacement/refurbishment capex, the TNSP should provide details on:
 - (i) its overall asset management processes and procedures
 - (ii) how its individual investment decisions fit within this strategy.
- (h) In relation to large replacement projects (that is, projects exceeding \$10 million), the TNSP should provide an explanation as to why the asset needs replacing (including comprehensive condition based assessments).
 - (i) In relation to business support capex (for example, information technology and communications), the TNSP should provide a comprehensive and robust assessment of the need for these investments (including a business case showing the analysis undertaken to support the investment).

A.5 Operating and maintenance expenditure

- (a) The TNSP should provide:
 - (i) its actual opex spend (historical) over the first four years of the current regulatory control period
 - (ii) a reasonable forecast of the opex spend for the final year of the current regulatory control period
 - (iii) the assumptions on which its opex forecasts are based
 - (iv) full and detailed explanations of the basis for its preparation of its opex forecasts
 - (v) if the opex classification (or allocation framework) has changed during the current regulatory control period:
 - (1) an explanation of the change

- (2) the historical annual opex presented using both the old classification and the new classification methodologies.
- (b) To assist the ACCC in the consideration of partial indicator (ratio) analysis of opex, the TNSP should provide measures of its:
 - (i) line length (circuit kilometres)
 - (ii) number of substations
 - (iii) energy delivered (gigawatt hour)
 - (iv) energy demand (megawatt).
- (c) If the TNSP is requesting a self-insurance allowance as part of its revenue cap, it should address the self-insurance guidelines as set out in Chapter 6 of the Draft Background Paper.
- (d) If the TNSP is requesting a pass through mechanism as part of its revenue cap, it should address the pass through guidelines as set out in Chapter 6 of the Draft Background Paper.

Appendix B Transitional Capital Expenditure Arrangements

B.1 Introduction

The ACCC will apply the ex-post prudence test for investment during the first revenue control period in assessing the amount of capex out-turn to be rolled-into the RAB. The ACCC for subsequent revenue caps will apply an ex-ante framework. In assessing the amount of capex that should be rolled-into the RAB, the ACCC is guided by the principle that consumers only pay for prudent investment and that TNSPs meet their statutory obligations.

B.2 Prudence-test

The ACCC will assess the prudence of actual capital expenditure subject to S5.1 of the Draft Statement of Principles for the Regulation of Transmission Revenues, May 1999, which outlines the test for prudent investment, "...the amount that would be invested by a prudent TNSP acting efficiently in accordance with good industry practice".

The ACCC will apply the prudence test to augmentation investment which has been assessed under the Regulatory Test, and to projects that have not been subjected to the Regulatory Test, by following a three stage process:

B.3 Regulatory Test

The ACCC is not expressly bound to accept the outcome of the Regulatory Test as the definitive statement on the amount to be rolled-in to the RAB. Nevertheless, the ACCC has adopted the Regulatory Test as the starting point for assessing the prudence of TNSP's capex.

B.4 Application of Prudence Test

First, assess whether there is a justifiable need for the investment. This stage examines whether the TNSP correctly assessed the need for investment against its statutory and Code obligations. At this stage, the assessment focuses on the need for investment, without specifically focussing on what the "correct" investment to meet that need should be. An affirmation of the need for an investment does not imply acceptance of the specific project that was developed.

Second, assuming the need for an investment is recognised, assess whether the TNSP proposed the most efficient investment to meet that need. The content of the assessment here is whether the TNSP objectively and competently analysed the investment to a standard that is consistent with “good industry practice.”

Third, assess whether the project that was analysed to be the most efficient was indeed developed, and if not, whether the difference reflects decisions that are consistent with “good industry practice”. The analysis in this third step examines in detail the factors that caused changes in the project design and/or delivery and assesses how the TNSP responded to those factors in comparison to what could be expected of a prudent operator.

The ACCC will apply the prudency test to “non-augmentation” and “support the business” investment by reviewing the processes conducted by the TNSP in assessing the need for investment, selecting the appropriate project and then delivering that project.