Regulatory Accounting Methodologies

Position Paper

September 2005

TABLE OF CONTENTS

1. INTRODUCTION

1.1 BACKGROUND

There are a number of issues that need to be finalised in implementing the regulatory framework for transmission regulation embodied in the AER's Statement of Regulatory Principles (SRP), released in December 2004. One of these issues relates to the recognition of when capex is included in a TNSP's regulatory asset base.

TNSPs have adopted different regulatory accounting methods. The choice of accounting approach affects the compilation of regulatory accounts. More importantly it also affects the calculation of allowed revenues during the regulatory control period; and the method for establishing the closing regulatory asset base at the end of the regulatory period. As a result of this, the choice of accounting methodology is a significant input underpinning the operation of the regulatory regime.

There are two accounting approaches to recognising the point in time when capex is included in a TNSP's regulatory asset base which are considered in this paper. These approaches are outlined below.

- EnergyAustralia and TransGrid have adopted an "as-incurred" accounting approach where the record of capital expenditure in any one year is based on expenditure in that year.
- Transend, Powerlink, Electranet and SP AusNet (for transmission) have adopted an as "as-commissioned" approach where the record of capital of expenditure depends on whether the asset related to that expenditure has been commissioned.

As far as the AER is aware, accounting for capital expenditure on an "as-commissioned" basis is unique to those TNSPs that have adopted this approach. The AER is not aware of any other regulated utility in Australia or elsewhere that has adopted this approach.

1.2 CHANGE IN REGULATORY FRAMEWORK FROM EX-POST TO EX-ANTE

The approach to capex timing in the ACCC's 1999 Draft Statement of Regulatory Principles (DRP) specified an "as commissioned" approach, where capex is recognised in the regulatory asset base when a project is commissioned. This approach was consistent with the DRP's ex-post approach to assessing capex. Under the ex-post approach, the ACCC assessed actual capex in terms of prudency, where only prudent expenditure was rolled into a TNSP's regulatory asset base at each revenue reset. This approach involved a project by project assessment of capex to assess prudency.

Under the ex-post approach, there were limited incentives for cost minimisation, and a capex allowance was set upfront simply to determine a price path. This meant that the upfront capex forecasts were not efficiency targets and the allowable level of efficient capex over the regulatory period would be determined at the end of the regulatory period. The "as commissioned" approach was consistent with the ex-post treatment of capex as this involved a backward looking review after the capex had been spent. The regulatory framework has subsequently evolved under the SRP. The principles provide that capex is assessed on an ex-ante basis. Under the ex-ante capex framework, efficient capex requirements are assessed up front as part of a revenue reset and actual capex is rolled into a TNSP's regulatory asset base at the next reset (subject to the requirements of chapter 5 of the *National Electricity Rules*). This means that the AER no longer undertakes an assessment of the prudency of actual capex on an ex-post basis and that a breakdown of project specific costs is therefore not required.

In addition, under the ex-ante framework, upfront capex targets are not reviewed at the end of the regulatory period and a TNSP is rewarded for expenditure that is lower than the target or penalised for expenditure that is higher than the target for that regulatory period. The SRP does not provide guidance on this issue and the ACCC has previously allowed TNSP's flexibility to adopt either approach.

In view of the revised regulatory design, this paper identifies issues arising from the implementation of the "as-commissioned" accounting approach relative to the "as-incurred" approach.

1.3 Issues examined

In assessing capex timing issues, the AER has identified five possible issues:

- Issue No. 1: Will different accounting approaches result in different efficiency incentives?
- Issue No. 2: Will the administration of an "as-commissioned" regulatory approach be onerous?
- Issue No. 3: Will different accounting approaches impede consistent comparison of TNSP expenditure?
- Issue No. 4: Will the choice of accounting approach deliver price shocks?

The rest of this paper discusses these issues in this order.

1.4 Preliminary position

The AER considers that based on its assessment of the issues identified in the position paper there is a sound case for prescribing the "as-incurred" approach. In particular, based on an assessment of the compatibility of each accounting approach to the; ex-ante incentive arrangements; administrative complexity; and consistency of comparing expenditure across TNSP's, the AER's preliminary position is to prescribe the "as-incurred" approach. However, this conclusion is subject to any new substantive issues identified or comments raised by stakeholders on this paper.

1.5 SUBMISSIONS AND PROCESS

The AER is seeking submissions from interested stakeholders on the merits of either approach. Interested parties are invited to make written submissions to the AER on the issues raised in this Position Paper prepared in conjunction with Mountain Nuttall Consulting. The closing date for submissions is 17 October 2005. Following comments received on the position paper the AER will make a determination by late November 2005.

Submissions can be sent electronically to: AERInquiry@aer.gov.au. Alternatively, written submissions or submissions on disk, in either Word 8.0 or PDF format can be sent to:

Mr Sebastian Roberts
General Manager
Transition Group
Australian Energy Regulator
GPO Box 520
Melbourne VIC 3001

2. ISSUES

2.1 WILL DIFFERENT ACCOUNTING APPROACHES RESULT IN DIFFERENT EFFICIENCY INCENTIVES?

In assessing this issue, it is necessary to first describe how the efficiency incentive in the SRP incentive scheme arises. The ex-ante incentive approach adopted in the SRP provides incentives to reduce and/or defer capital expenditure compared to the annual profile of "allowed" capital expenditure established in the revenue control decision.

The strength of this efficiency incentive decays over the course of the regulatory period. To the extent that expenditure is lower than the allowed expenditure, consumers benefit from the start of the next regulatory period since the closing regulatory asset base will reflect the lower actual expenditure. Conversely, if expenditure is higher than the allowed expenditure, the TNSP will bear the return on and of the difference until the end of the regulatory control period, at which point the actual expenditure will be reflected in the regulatory asset base.

To implement the "as-incurred" approach an investment allowance is specified for each year of the regulatory control. Actual investment during the regulatory period will be reflected in the closing regulatory asset base calculation at its depreciated value.

The information necessary to implement this regulatory arrangement includes:

- The asset value at the start of the regulatory period for each asset category
- The average remaining life of assets in each asset category
- The target expenditure (regulatory decision) for each year for each asset category
- The actual expenditure for each year for each asset category.

No project-specific ex-post assessment is necessary – the closing regulatory asset base is mechanistically established as the depreciated value of actual expenditure in each asset category (plus the depreciated value of opening assets by category).

Under the "as-commissioned" approach the stream of depreciation and return-on-asset payments are calculated differently from the "as-incurred" approach. The two differences are that with the "as-commissioned" approach:

- Assets are not depreciated until they enter service;
- The return on assets is compounded and added to the cash cost of the asset and is only recovered through regulated charges when the rolled-up cost of the asset is added to the regulatory asset base.

To ensure that the ex-ante approach can be implemented with an "as-commissioned" approach, it will be necessary to alter the calculation of the amount to be added to the regulatory asset base for each project when it is commissioned. This is necessary to ensure that the present value of the stream of depreciation and return on asset payments once the asset has been commissioned will be the same under the “as-commissioned” approach as under the “as-incurred” approach.

To see why this is the case, consider that the amount to be added to the regulatory asset base under the “as-commissioned” approach is based on the rolled-up value of the undepreciated actual expenditure (as it has been under the ex-post regulatory approach). This is illustrated by example by comparing the outcome under the unadjusted “as-commissioned” approach and the “as-incurred” approach. The example is of project X which is developed over four years in one regulatory period but commissioned in the next. For the purpose of analytical simplicity (although it has no affect on the conclusions) the example has assumed that the project is commissioned in year six.

Project X: Treatment under “as-commissioned” versus “as-incurred”

	Year 1	Year 2	Year 3	Year 4	Year 5	Total
Expenditure included in regulatory target	0	10	20	50	100	180
Actual cash expenditure (as-incurred)	0	1	5	40	90	136
Actual cash expenditure (as-commissioned)	0	0	0	0	136	136

The difference in the target and actual expenditure has an (undiscounted) value of $44m and a discounted present value (at the start of the regulatory period) of $38.2m.

The “as-incurred” approach delivers the following results:

- The stream of depreciation and return-on-asset payments for the first five years is based on the level of expenditure included in the regulatory target. Thereafter, the closing regulatory asset base is set equal to the depreciated value of the actual expenditure. By allowing the TNSP to retain the depreciation and return on asset payments commensurate with the forecast higher level of expenditure for the first five years, the TNSP retains $7.6m of the total $38.2m saving in present value terms.

The “as-commissioned” approach (as currently applied) delivers the following result:

- No depreciation and return payments are made in the first five years because the project is only commissioned in the sixth year.

- The return-on-assets is accumulated and rolled into the regulatory asset base at the start of the sixth year when the asset is commissioned. This return is based on the actual expenditure.
- The present value of the stream of depreciation and return on asset payments over the remaining life of the project will equal the actual cost of the project. Effectively the TNSP has not obtained any benefit for beating the regulatory target.

If we reverse the assumptions on actual and target expenditure (i.e. the actual expenditure and target expenditure numbers in the example above are swapped) then the ex-ante incentive applied on an "as-incurred" approach will result in the TNSP contributing (in PV terms) $7.6m of the total cost over-run of $38.2m. By the contrast, the "as-commissioned" approach would mean that the TNSP suffers no financial detriment for the cost-over-run – in the same way that it obtained no financial gain when it bettered the target.

Effectively what this means is that the regulatory target has no meaning under the "as-commissioned" approach – TNSPs are not financially affected by the difference between target and actual expenditure, as they would be if they applied the "as-incurred" approach.

A similar analysis can be performed for the case of projects not expected at the time of the revenue control (i.e. there is no provision for these projects in the regulated expenditure target), but where conditions e.g. demand growth, caused projects to be advanced into the current regulatory period. The details of the analysis in this case differ but the conclusion is the same: the "as-commissioned" approach will not deliver the same result under an ex-ante regime as the "as-incurred" approach.

To ensure the same, or similar, outcomes under the "as-commissioned" and "as-incurred" approaches in the context of the SRP ex-ante incentive design, adjustments will need to be made to the calculation of the amount of the value of the asset to be added to the regulatory asset base. The purpose of these adjustments is to ensure that the present value of the depreciation and return-on-asset payments will be the same under both approaches. The calculation of the adjustments would need to take account of the following:

- The "as-incurred" approach uses information on the actual expenditure by asset category to calculate the closing regulatory asset base. The "as-commissioned" approach requires a project-specific examination.
- The "as-incurred" approach is not concerned with whether the project is commissioned. The "as-commissioned" approach would require that adjustment is only made to projects that have been commissioned (and hence are eligible for inclusion in the regulatory asset base).
- The "as-incurred" approach does not require special adjustment according to whether or not the project was included in the determination of the target expenditure. The "as-commissioned" approach will require an ex-post

determination of the expenditure target for all projects that are commissioned but which were not included in the regulatory target.

- The "as-incurred" approach only requires the calculation of the closing regulatory asset base once, at the end of the regulatory period. The "as-commissioned" approach will require the regulatory asset base to be re-adjusted throughout the revenue control period for projects whose expenditure started in the previous regulatory control but which are commissioned in the current regulatory control.

It is not clear to the AER that these adjustments that will be required under the "as-commissioned" approach are workable. In addition, the TNSP's would be required to provide more information to the AER to enable the same or similar outcomes under either approach in the context of the ex-ante incentive framework.

> The AER's preliminary view is that the "as-commissioned" approach is not consistent with the ex-ante incentive regime established in the AER's SRP. Specifically, it requires a project specific assessment and will require complex adjustments to ensure that the present value of the revenue stream over the life of the asset would be the same as under the "as-incurred" approach.

2.2 WILL THE ADMINISTRATION OF AN "AS-COMMISSIONED" REGULATORY APPROACH BE ONEROUS?

The section above considered what adjustments would be needed to ensure that TNSPs receive the same (or similar) rewards and penalties under "as-commissioned" as they do under "as-incurred". This section explores other administrative details of an "as-commissioned" approach.

2.2.1 Ex-post efficiency assessment of expenditure incurred in the previous regulatory period

The regulatory regime administered by the AER entails the re-establishment of the maximum allowable revenue for five years, at five yearly intervals. At each review the AER makes a decision on the allowed revenue in each year based on an allowed rate of return and allowed operating and capital expenditure. The decision also entails specifying how the regulatory asset base will be established at the end of the regulatory period. These are 5- year decisions – the AER is not making any decision about expenditure to be added to the regulatory asset base or included in the maximum allowable revenue in the subsequent regulatory period. This is a decision to be made by the AER at the time of the next review.

Under the "as-commissioned" approach, by definition expenditure is only counted in the regulatory asset base calculation when the assets of which that expenditure forms part, are commissioned. Therefore, even though expenditure on those assets occurs during the current regulatory period, such expenditure would not be considered by the

AER in its Maximum Allowable Revenue decision during the current regulatory period.

Instead, it is necessary to assess the prudency of that expenditure during the next regulatory period when the asset is commissioned. This is an ex-post assessment.

This is an additional layer of administrative complexity for the TNSP and the AER that does not exist under the "as-incurred" approach. The information that will need to be provided by the TNSP for this ex-post expenditure includes:

- Identification of the projects on which that expenditure has been made;
- Justification for the prudency of that expenditure.

The task for the AER will be to decide whether it accepts the TNSP's application. If it does not accept the application, it will need to justify why it has been rejected and decide the amount to be included in the regulatory asset base.

> The AER's preliminary view is that under the "as-commissioned" approach an ex-post assessment would need to be undertaken. The assessment would need to consider the prudency of expenditure undertaken during the previous regulatory period on projects that are commissioned in the current regulatory period.

2.2.2 Allocation of expenditure to commissionable projects

As described earlier, the regulatory approach set out in the SRP relies on the specification of an annual expenditure allowance by asset category. Under the "as-commissioned" approach, the calculation of the closing regulatory asset base depends on when the project is commissioned. Therefore to implement the "as-commissioned" regulatory approach, it is necessary to attach a commissioning date to all capital expenditure. In some cases this will be easy to do. For example, expenditure on a large transformer can be easily identified with a specific project to be commissioned on a specific date. However in many cases the allocation will not be straightforward as:

- Different approaches to the categorisation of expenditure may cause uncertainty. For example is the easement for a particular transmission line. Is this is a commissioned asset in its own right or is it part of a transmission line that will be commissioned in various stages? If the easement is defined as a commissioned asset in its own right, it would be included in the regulatory asset base calculation for this regulatory period. But, if the easement is categorised as part of the expenditure on the transmission line project to be commissioned during the next regulatory period, then it should be included in the regulatory asset base in the next regulatory period.
- There will be uncertainty on the commissioning date for projects, particularly towards the end of the regulatory period.

- Policies would need to be developed on how support-the-business capex (such as information technology, corporate, communications etc.) is to be categorised between assets that will be commissioned during this regulatory period and assets to be commissioned during the next regulatory period.

> The AER's preliminary view is that the "as commissioned" approach would involve additional administrative complexity. This would affect TNSPs as well as the AER. TNSPs would be required to implement new arrangements and provide supporting on-going reporting.

2.3 WILL DIFFERENT ACCOUNTING APPROACHES IMPEDE CONSISTENT COMPARISON OF TNSP EXPENDITURE?

- The AER for the purposes of comparing TNSP performance extracts information from the regulatory accounts. However, different accounting approaches could affect comparisons in a number of ways:
- Reconciliation of regulatory and financial accounts;
- Assessment of the relationship between opex and capex.

These considerations are discussed further below.

2.3.1 Reconciliation of regulatory and financial accounts

In assessing each approach consideration needs to be given to the extent to which the "as-incurred" and "as-commissioned" approaches are aligned with a TNSP's financial accounts. An "as-commissioned" approach will only include an asset in the reported regulatory accounts when it enters service. Some TNSPs have argued that the recognition of expenditure on an "as-commissioned" approach is aligned with their financial accounts and any move to reporting expenditure on an "as-incurred" basis would involve greater misalignment between their regulatory and financial accounts. Further, there may be one-off costs associated with the transition from one approach to the other.

The AER considers that published and audited financial accounts provide a robust benchmark for the purposes of comparing TNSPs performance and revenue setting. While there is no requirement for financial and regulatory accounts to be presented in a similar form, the AER considers that a high degree of alignment will aid in the transparency and credibility of the regime.

The presentation of regulatory accounts differs from financial accounts. This applies whether or not the “as incurred” or “as commissioned” approach is applied.

The AER’s preliminary view is that the different reporting and reconciliation requirements do not favour one approach over the other. However, the AER recognises that TNSPs may incur one-off costs in the transition from one approach to another and that TNSPs should be compensated for any additional costs.

2.3.2 Assessment of the relationship between opex and capex

The SRP recognises that in some cases opex and capex are substitutes. One of the AER’s considerations in the design of the regulatory regime is to avoid inefficient substitution between opex and capex. To appropriately inform decisions on the efficient regulatory allowances for opex and capex, it will be helpful to be able to compare the level of opex and capex amongst TNSPs, and the relationship between opex and capex over time.

The “as-commissioned” approach can make the necessary comparison and analysis of this relationship more difficult. This arises because the capex measured in each year is not the actual expenditure made in that year, but rather the expenditure made in that previous years that enters service in that year.

In addition, in arriving at revenue control decisions for TNSPs, the AER may want to compare the level of expenditure by TNSPs on various items such as refurbishment, IT, corporate overhead, land etc. The “as-commissioned” approach will distort this comparison for the reasons explained above. To make valid comparisons, adjustments will need to be made to correct for the accounting differences.

The AER’s preliminary view is that consistency between accounting approaches across TNSPs would assist in comparing performance between TNSPs and over time.

2.4 WILL THE CHOICE OF ACCOUNTING APPROACH DELIVER PRICE SHOCKS?

Recognising expenditure on assets only once they are commissioned will result in a different time profile of expenditure recognition compared to the recognition of expenditure as it is incurred. The total expenditure will be the same and, depending on the treatment of interest during construction, the two accounting methods could theoretically produce the same present value of the revenue stream based on the recovery of depreciation and return on assets.

Most importantly, any transition to the “as-incurred” approach may give rise to a once off lumpy revenue profile by bringing forward expenditure. In particular, under an ‘as-incurred” approach, a proportion of expenditure associated with projects expected to be commissioned in the following regulatory would be reflected in a TNSP's regulatory asset base in the current revenue control period.

The AER's preliminary view is that any price shocks associated with transitioning from the "as-commissioned" to the "as-incurred" approach is not likely to be significant.

In general, the "as-commissioned" approach may produce a more lumpy revenue profile (than the "as-incurred" approach) in circumstances where there are significant changes in investment over time. The AER has not modelled this effect, but it is not expected to be significant for the following reasons:

- Although annual expenditure may differ significantly from one year to the next, the impact on the annual revenue requirement may not be significant because the assets are depreciated over long periods (typically 40 years more) and so the incremental change in the revenue requirement attributable to the lumpy addition of assets when they are commissioned will generally not be significant;
- The AER's Post Tax Revenue Model uses a smoothing calculation underlying the calculation of the X factor to deliver an annual revenue requirement that results in the minimum annual deviation.
- There is no reason to consider that in principle, this is an inappropriate accounting approach. Indeed, it could be argued that it is appropriate to only begin to recover the cost of an asset once it is operational and delivering service to transmission users. This means that users are at all times only paying for assets that are used to serve them – at least in principle if not in practice.

The AER's preliminary view is that any price shocks associated with implementing either approach is not likely to be significant.

3. PRELIMINARY POSITION

This paper identifies the issues that the AER considers relevant in considering whether to adopt the “as-incurred” or “as-commissioned” approach to rolling assets into the asset base. These include the compatibility of the two approaches with the ex-ante incentive regime established by the AER’s SRP, administrative simplicity, consistency with accounting standards, costs to the TNSPs in moving from one approach to another, and transparency across TNSPs and over time.

The options open to the AER are to prescribe one of the approaches or to give TNSPs the option of adopting their preferred approach. The AER considers that there is a sound case for prescribing the “as-incurred” approach based on its assessment of the issues identified in this paper. The AER’s preliminary position is to prescribe the “as-incurred” approach, subject to any new issues identified or comments raised by stakeholders on this paper.

The AER invites submissions from interest parties addressing the AER’s following questions or any or other relevant matters:

- Has the AER identified the appropriate issues? Are there other relevant matters that the AER should consider?
- Is the “as-commissioned” approach consistent with the ex-ante incentive regime established by the AER’s SRP? How could the “as-commissioned” approach be applied to be consistent with the ex-ante incentive framework in the SRP?
- Given the issues raised in the second point, would the implementation of an “as-commissioned” approach be more administratively complex than the “as-incurred” approach? If so how material is the additional administrative complexity?
- Some TNSPs currently apply the “as-incurred” approach and some the “as-commissioned” approach. Are there costs in moving from one approach to the other? How material are they?
- If a TNSP changes its approach it may need to modify its regulatory accounts. Does this raise any accounting standards, auditing or other accounting issues?
- Has the AER appropriately weighed up the relevant issues in reaching its preliminary position?

The closing date for submissions is 17 October 2005. Following comments received on the position paper the AER will make a determination by late November 2005.

Submissions can be sent electronically to: AERInquiry@aer.gov.au. Alternatively, written submissions or submissions on disk, in either Word 8.0 or PDF format can be sent to:

Mr Sebastian Roberts
General Manager
Transition Group
Australian Energy Regulator
GPO Box 520
Melbourne VIC 3001