

1. Incentivisation of excluded projects

1.1. Introduction and background

This paper presents the thinking of ACCC staff on the design of an incentive scheme for excluded projects and on the process for the implementation of this scheme. It also sets out proposals for the implementation of the arrangements for investment following an off-ramp event.

This paper follows the recent publication of the Draft Decision: Statement of Principles for the Regulation of Electricity Transmission Revenues (DRP), and associated Draft Background Paper. A key issue in this paper – the application of an economic incentive to excluded projects – represents a revision to the approach set out in the DRP and Draft Background Paper, which did not envisage that this investment would be subject to a regulatory incentive.

This paper proposes an economic incentive to excluded projects in recognition that without such an incentive, there may be inefficient allocation of expenditure between the main ex-ante investment cap and the “excluded investments” category. The main focus of this paper is to:

- describe different incentive designs that could be applied to excluded projects;
- evaluate those designs and conclude on the preferred approach.

The last sections of this paper set out the thinking of ACCC staff on the detail of the implementation of the regulatory arrangements for excluded projects, and for investment in response to off-ramp events.

Consistent with the principles set out in the DRP, the concepts in this paper, if adopted, will reflect the manner in which the ACCC proposes to exercise its discretion under the Code in relation to transmission revenue regulation.

The implementation processes described in this paper have been designed to be consistent with the National Electricity Code. However, it is important to recognise that the Code, in its current form, may not permit the implementation of these mechanisms in a way that fully achieves the ACCC’s objectives for the incentives provided to TNSPs or the appropriate level of certainty for TNSPs in terms of the outcomes of regulatory processes. ACCC staff believe that there is a strong case for amendments to be made to the Code to achieve these objectives and will be developing proposals for such amendments in the near future.

1.2. Possible options for the design of incentives for excluded projects

There are many possible ways to design an economic incentive for expenditure on excluded projects. If the essential design of the incentive for excluded projects is to be consistent with the incentive applied to the main ex-ante cap, then there are a few essential features including:

- The determination by the regulator of a target level of expenditure on the excluded project. This establishes the hurdle against which actual expenditures can be compared, to determine whether an incentive reward or penalty is payable;
- A period during which revenues are pre-determined and unchanged (in the case of the main ex-ante control, this is five years); and
- The revision of the asset base at the end of the regulatory period to reflect any difference between the actual expenditure on the excluded project, and the regulatory determination of the target expenditure.

Then, different powered incentives to reduce expenditure below the ex-ante cap can result depending on:

- the length of the period during which revenues are pre-determined;
- the life of the asset;
- the allowed rate or return;
- the time profile of actual investment on the project compared to the regulatory allowance; and
- the precise calculation of the closing Regulatory Asset Base (RAB) at the end of the regulatory control period.

ACCC staff consider that:

- the life of the project should be determined by technical parameters (rather than regulatory parameters);
- there is no reason to vary the length of the regulatory control period for excluded projects from the regulatory control period applied in the main ex-ante cap; and
- it would be inappropriate to vary the allowed rate of return for excluded projects compared to the allowed rate of return for investment covered by the main ex-ante cap.

The remaining incentive design question is therefore whether at the end of the period of the control on excluded projects, the closing RAB for the excluded project should be set equal to the closing RAB based on:

- The lower of actual expenditure and the regulatory target expenditure;

- The actual expenditure (whether it is higher or lower than the target expenditure); or
- An expenditure level anywhere in the range between the actual expenditure level and the target expenditure level.

Setting the closing RAB to the lower of actual expenditure and the regulatory target expenditure is the incentive design contemplated in the main ex-ante cap. This means that TNSPs retain the benefit of spending below the target level during the five years of the regulatory control. However, if in present value terms the total expenditure on the project exceeds the regulatory target, then the TNSP is required to bear the full amount of the overspend. This provides very strong incentives not to exceed the target expenditure level. This is the first incentive design option we have evaluated.

Setting the closing RAB at the level of the actual expenditure (whether it is higher or lower than the target expenditure) provides symmetrical incentives on the excluded project. This is because TNSPs retain the benefit¹ of any underspend for the period of the control between the time of the underspend until the end of the regulatory control period, but equally are liable for the disbenefit of any overspend between the time of the overspend until the end of the regulatory control period. This is the second incentive design option that has been evaluated.

Finally, setting the closing RAB at a value anywhere between the RAB based on actual and target expenditure would also be possible. This could be done by setting the closing RAB at, say, the mid-point of the RAB based on actual and target expenditure. The only reason for considering this option in addition to options already discussed would be to achieve a different powered incentive². To the extent that either of the aforementioned options fails to deliver an appropriate incentive, this approach should be considered further.

In addition to the class of possible “5-year” incentives it is possible to define an incentive by simply comparing the present value of the expenditure on a project to the allowed expenditure on the project and then allocating a portion of any difference (the sharing factor) to the TNSP. This approach has been called the “sharing factor” approach in this paper. Different sharing factors could be used - for example different sharing factors could be used depending on whether there is an underspend compared to an overspend. Similarly different sharing factors could be set depending on the extent of the overspend or underspend. This is the third incentive design option that has been evaluated in this paper.

¹ More precisely, the depreciation and return on assets on the difference between the expenditure target and the actual expenditure.

² Power of the incentive refers to the proportion of any underspend/overspend that the TNSP keeps/bears.

The incentive designs that ACCC staff have evaluated are summarised in Table 1 below:

Option	Description	Implementation	Implication for TNSPs/ consumers
1	5-year asymmetrical incentive of same design as main "ex-ante bucket" incentive	At end of period, RAB set to lesser of value based on target and actual expenditure.	TNSP keeps difference in depreciation and return on assets for up to five years if $PV(\text{Actual Cost}) < PV(\text{target})$; but loses full overspend if $PV(\text{Actual Cost}) > PV(\text{target})$.
2	5-year symmetrical incentive	At end of period, RAB set to value based on actual expenditure.	TNSP keeps/loses depreciation and return on underspend/overspend for first 5 years only.
3	Sharing factor-based incentive	TNSP keeps/pays predetermined % of difference between PV of target and actual cost of project.	TNSP keeps/pays predetermined % of difference between PV of target and actual cost of project.

1.3. Evaluation

The different options have been modelled taking account of the difference between the forecast and actual expenditure on the project and in view of reasonable assumptions of the life of the asset and the allowed rate of return. From this analysis, the following conclusions can be drawn:

- Options 1 and 2 always deliver precisely the same result as long as the present value of the actual expenditure on the project is less than the present value of the target expenditure. Both provide reasonable efficiency incentives. For example, if the same proportion of the underspend occurs consistently during the construction of the project, TNSPs keep around 38% of the resulting saving.³ If the underspend occurs exclusively in the first year of construction, then the TNSP keeps around 45% of the resulting saving. Conversely if the underspend occurs in the third year, then the TNSP keeps around 30% of the resulting saving;
- Options 1 and 2 increasingly diverge as long as the actual expenditure is above the target expenditure. With Option 1, the TNSP bears the full value of the overspend under all circumstances. For Option 2, the maximum proportion of the overspend that the TNSP will be exposed to will occur for overspends during the first year of construction. In this case, the proportion of the over-spend borne by the TNSP is around 45% of the total value of the overspend;
- The power of the incentive for Options 1 and 2 depend on when during the period of the construction of the excluded project, deviations between the target and actual expenditure occur. Cost underruns/overruns are worth more to the TNSP if they occur earlier in the project construction period rather than later in the period; and

³ Assuming the life of the asset is 30 years and the real WACC is 6.80%.

- Option 3 can deliver strong or weak incentives, symmetrical or asymmetrical incentives depending on the defined sharing factors.

With these observations in mind, the pros and cons of these three options is summarised in Table 2 below.

Option	1	2	3
Advantages	Incentive design is consistent with the design applied to the main ex-ante incentive.	Symmetrical incentive allows setting target at mid-point of probability distribution – appropriate if narrow probability distribution of costs.	Sharing factor can be made symmetrical or asymmetrical and is “hard-wired”. Sharing factor can be varied for profits/losses and different factors can be applied over different ranges out outturn cost. “Caps”, “collars” and “dead-bands” can be used to derive focussed incentives.
Disadvantages	The asymmetry in the bonus and penalty will require adjustment by setting the allowed expenditure above expected efficient expenditure level. This is unnecessary / problematic if costs are known with a high degree of certainty. The sharing of savings/losses depends on the time profile of spending.	Presentational inconsistency with the incentive applied to the main “ex-ante” cap. The sharing of savings/losses depends on the time profile of spending.	Presentational inconsistency with the incentive applied to main “ex-ante” cap. Need to explicitly set the sharing factors.

The key difference between Options 1 and 2 is that Option 1 provides an asymmetric penalty to TNSPs on overspends compared to the benefit it provides for underspends. To ensure that, in expected value terms, TNSPs are not prejudiced as a result of the asymmetric bonus/penalty, the expenditure target needs to be set at a level that the TNSP

has more than a 50% probability of achieving. Option 2 by comparison delivers exactly the same benefit for any underspend, as the disbenefit that it delivers for overspends of the same magnitude. Therefore the expenditure target for option 2 can be set at the level that the TNSP can be expected to achieve with a 50% probability.

The choice between Option 1 and 2 therefore reduces to the choice of an asymmetric (and commensurately more lenient expenditure target) versus a symmetric incentive and comparatively tougher expenditure target. ACCC staff consider that neither approach is intrinsically superior. Instead the choice between approaches should take account of the likely probability distribution of actual costs and other regulatory parameters.

In the DRP the ACCC has proposed an asymmetric treatment of cost overruns versus underruns for investment covered by the ex-ante cap. There are a number of reasons for this. Firstly, the main cap covers investment in a large number of independent projects. Unless there has been a systematic forecasting error, cost overruns on some projects can be expected to off-set, at least in part, cost overruns on others. This portfolio effect diminishes the probability of a net overspend across all projects. Secondly, TNSPs have some discretion in choosing the portfolio of projects that it will invest in, during any one regulatory period. If it becomes clear, during a regulatory period, that there will be a net overspend, then TNSPs can use their discretion to defer other investments to ensure that, across the portfolio, the total cap will not be exceeded. This too suggests that the probability of cost overruns compared to cost under-runs is likely to be skewed towards the latter. Finally, ACCC staff consider that some degree of symmetry in the main ex-ante cap is recognised through the use of an ex-ante cap that takes account of actual cost driver outturns, and the provision for additional investment as part of the off-ramps and excluded investment provisions. Accordingly, ACCC staff suggest that an asymmetric treatment of cost overruns and underruns would be appropriate for the main ex-ante cap.

However, none of these factors apply in respect of excluded projects: there is no portfolio effect and there is only likely to be limited discretion to defer or avoid expenditure on excluded projects. For this reason, the probability distribution of actual expenditure on excluded projects is more likely to be normally distributed. In this case, it would be more appropriate to apply a symmetrical incentive in the regulation of such investment.

Option 3 is an approach to incentive design not yet adopted by the ACCC in the regulation of TNSPs. As discussed, it has the advantage of being able to deliver a targeted incentive, and the sharing factor can be “hard-wired”. This means that there is a constant and proportionate distribution of the benefits of cost savings/disbenefit of cost overruns between TNSPs and consumers regardless of the magnitude of the difference between the actual and target expenditure. However this advantage needs to be set against the disadvantage of presentational inconsistency with the incentive design applied in the ex-ante cap. On balance ACCC staff consider that at this stage in the development of economic regulatory incentives it would be preferable to implement a consistent incentive to investments covered by the main ex-ante cap as applied to excluded projects. For these reasons, ACCC staff favour applying Option 2 in the regulation of excluded projects.

1.4. Implementation process

The implementation of the excluded project incentives requires the identification of excluded projects and preparation of information on these projects at the time of the revenue reset. Then procedures for the operation of the incentive if an “excluded project event” occurs during the regulatory control period should be established. The specific arrangements that ACCC staff favour in each of these areas are set out in the rest of this section.

1.4.1. Activities at the time of the revenue reset

The first task is to identify which projects, if any, should be excluded from the main incentive control. This should be implemented with reference to the error threshold calculation specified in the DRP, and consideration whether there are special circumstances that justify excluding a project that should otherwise fail to pass the error threshold.

For projects that are excluded from the cap, an appropriate specification of those projects should be developed. ACCC staff recognise that projects that are to be excluded from the main cap are, by definition, uncertain and therefore accurate specifications of such projects in terms of their design and expected construction costs will be difficult. Nevertheless in many cases investments in excluded projects could substitute, at least in part, for investments covered by the main ex-ante cap. Therefore it will be important to obtain as clear a specification of excluded projects, their main investment drivers and the inter-relationship between investment in excluded projects, and investment in the main cap. If a TNSP proposes that an excluded project event has occurred, this information will be reviewed to establish the bona fides of an excluded project, during the regulatory period.

1.4.2. Activities during a revenue reset, when a prospective excluded project event occurs

The main steps that ACCC staff envisage for the implementation of the excluded projects arrangement is summarised as follows:

- Step 1: The TNSP notifies the ACCC of its intention to invoke an “excluded project event”. This should occur when the TNSP becomes certain that investment in the excluded project will be needed. The ACCC then decides whether a bona fide “excluded project event” has occurred and notifies the TNSP accordingly. This is intended to provide certainty that the ACCC will recognise the investment as an excluded project – i.e. in addition to the investment provided in the main ex-ante incentive. This means that the TNSP can proceed to develop project designs, seek environmental and other approvals with the knowledge that, subject to the incentive, the costs will be recognised by the ACCC. The TNSP should then apply the Regulatory Test (if applicable) or

other investment appraisal processes to the investment in the excluded project. A key point is that while primary responsibility rests with the TNSP to undertake the project assessment, ACCC staff envisages that this assessment will be conducted in consultation with the ACCC. This means that ACCC staff expects to closely monitor key assumptions and the analytical approach adopted with the TNSP. ACCC staff propose to adopt this approach partly to ensure that incentives can be expeditiously developed. This recognises that in setting an incentive for investment in the excluded project, the ACCC will need to cover the same ground that would have been covered in the Regulatory Test. It will be possible to avoid unnecessary duplication by consulting with the ACCC at the time that the TNSP undertakes this evaluation. ACCC staff expect to undertake consultation with interested parties throughout the assessment. This may involve consultation over and above that already provided for in Chapter 5 of the Code. ACCC staff consider that an indicative time frame of four months would be appropriate depending on the length of time required to complete the regulatory test process in accordance with the Code.

- Step 2: After completion of the Regulatory Test process in accordance with the Code (including any appeals), the ACCC will establish an incentive for the excluded project. The incentive will specify:
 - when the incentive is to begin (under the preferred incentive design it ends five years from the date the incentive begins to apply);
 - the profile of target annual expenditure on the excluded project;
 - the calculation of the annual regulated revenue to cover depreciation and return on the investment in the excluded project on the basis of the annual investment allowances determined by the ACCC;
 - the calculation of the closing Regulatory Asset Base for the investment in the excluded project at the end of its five year incentive.
- Step 3. The TNSP invests in the excluded project. The appropriate adjustments to the closing Regulatory Asset Base and the capex allowance for the following period will be made at the re-set of the TNSP's revenue cap. Although the necessary adjustments could be made during the regulatory period with amendments to the Code.

These steps assume that there is certainty on investment in the excluded project and that once the incentive has been established, TNSPs will begin investment on the project as planned. It may be the case that in some circumstances the need for the investment or the optimal investment to respond to that need will change measurably from what was expected at the time that the Regulatory Test/investment appraisal was undertaken. In this case, ACCC staff believe that it may be appropriate to consider re-establishing the incentive to ensure that the incentive reasonably relates to the expected investment. Conducting such 're-assessments' are unlikely to be problematic if the investment has not yet started. However, re-opening an incentive during the period of its application, risks undermining the certainty and efficiency incentives that the control is intended to provide.

ACCC staff therefore believe that re-establishing an excluded project incentive should only be considered in extreme circumstances.

2. Off-ramp projects

2.1.1. Revised proposals

The DRP provides for an “excess” for the recovery of expenditure related to off-ramp events equivalent to 5% of the total capex allowance for the regulatory period. This means that the TNSP is required to cover the first 5% of any investment following an “off-ramp” event. It also provided that “off-ramp events” could be invoked by TNSPs, the ACCC or third parties. This would mean that off-ramps that result in a decrease in the required investment during the period of control would also be taken into account.

ACCC staff have now reconsidered these arrangements and propose the following:

- The “threshold” should be reduced from 5% of the total capex allowance during the 5 year regulatory control period, to an annual “threshold” equivalent to 5% of the average annual capex expenditure (in other words one percent of the total capex target). The threshold will apply annually. This means that although investment following an off-ramp may exceed the target in any one year, it will need to be reset for all subsequent years;
- If the present value of the investment following an off-ramp event exceeds the “threshold”, then the full cost will be recoverable from consumers;
- “Off-ramp events” can only be invoked by TNSPs – in other words TNSPs will be covered (subject to the excess) against cost increases resulting from off ramp events. However, the off ramp mechanism will not be used to reduce the ex ante cap should forecast events not occur.

It is important to note that in the assessment of off-ramp expenditure, the ACCC will take account of any allowance that may already have been made in the ex-ante cap determination for investment to mitigate the impact of off-ramp risks.

2.1.2. Proposed implementation arrangements

The proposed implementation arrangements for off-ramps follow a similar process to that envisaged for excluded investment. However, since no economic incentive will be established for off-ramp expenditure, different procedures will apply for the administrative process that the ACCC envisages. The steps that the ACCC envisages for off-ramp investment is as follows:

- Step 1: The TNSP notifies the ACCC of its intention to invoke “an off-ramp event”. The ACCC then decides whether a bona fide “off-ramp event” has occurred and notifies the TNSP accordingly. This means that the TNSP can proceed to develop project designs, seek environmental and other approvals with the knowledge that, subject to the controls, the costs will be recognised by the

ACCC. The TNSP then applies the Regulatory Test (if applicable) or other investment appraisal processes to the investment in the excluded project. As with excluded projects, the ACCC envisages that this assessment will be conducted in consultation with ACCC.

- Step 2: After completion of the Regulatory Test process in accordance with the Code (including any appeals), the ACCC then determines an investment allowance to allow the TNSP to respond to the off-ramp event on the basis of the investment assessment and after taking account of investment allowed under the ex-ante cap. This will typically take the form of a specified allowance for each year of the project's construction and may include an agreed contingency allowance.
- Step 3. The TNSP will invest following the off-ramp and will be allowed to include the actual expenditure incurred on the off-ramp project during the regulatory period in which the off-ramp occurred, as long as the present value of the actual expenditure during the regulatory period in which the off-ramp event occurred is below the present value of the allowance including the agreed contingency allowance for that regulatory period. As with an excluded project, ACCC staff believe that re-determining the investment allowance for an off-ramp event should only be considered in extreme circumstances.

It should also be noted that the ACCC expects to undertake consultation with interested parties through-out the assessment and control of off-ramp investment.