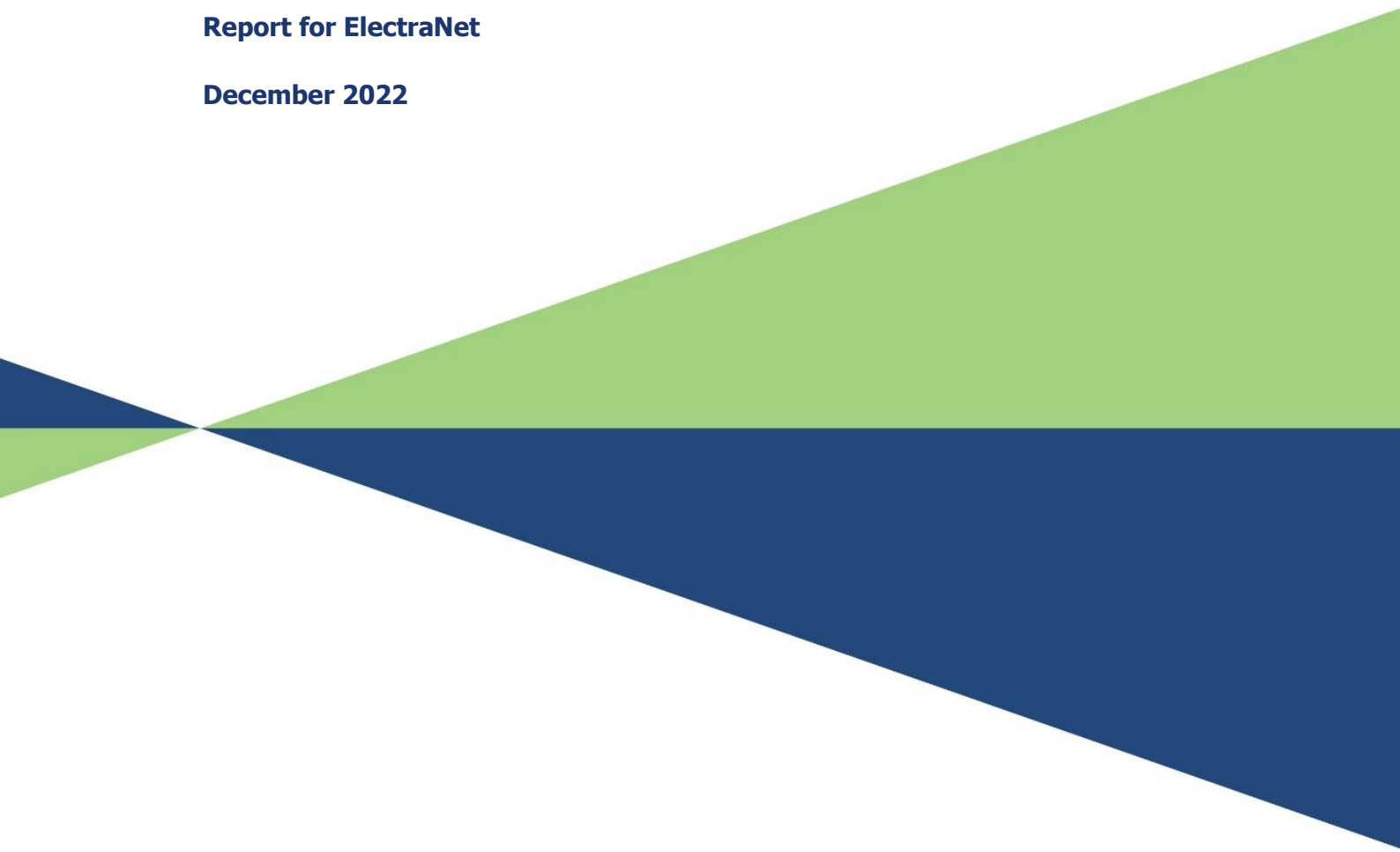
Application of the CESS to ElectraNet

Report for ElectraNet

December 2022



INCENTA
ECONOMIC CONSULTING

Contact us:

Incenta Economic Consulting
Unit 1, 19-35 Gertrude Street
Fitzroy, Victoria, 3065
Telephone: +61 3 8514 5119
Website: www.incenta.com.au

Disclaimer:

Table of Contents

Figures

1. Introduction

1.1 Our brief

1. Incenta Economic Consulting (Incenta) has been engaged by ElectraNet to provide advice on the Australian Energy Regulator's (AER) application of the Capital Expenditure Sharing Scheme (CESS) in its Draft Decision on ElectraNet's Revenue Proposal for the 2023-2028 regulatory period.[1] Specifically, we have been asked to advise on the AER's application of the criteria for making an adjustment to the CESS in the context of a deferral of capital expenditure between regulatory periods.

2. Section 2.5 of the AER's Capital Expenditure Incentive Guideline sets out the criteria it will apply to decide if an adjustment will be made where capital expenditure is deferred from one period to the next. The criteria are as follows:

> *To help consumers share in the benefits from deferred capex, we will make an adjustment to the CESS payments where a NSP has deferred capex in the current regulatory control period and:*
>
> *a. the amount of the deferred capex in the current regulatory control period is material, and*
>
> *b. the amount of the estimated underspend in capex in the current regulatory control period is material, and*
>
> *c. total approved forecast capex in the next regulatory control period is materially higher than it is likely to have been if a material amount of capex was not deferred in the current regulatory control period.*

3. We note that given the AER use the word 'and' with respect to each criterion that we expect this means that each criterion must be met for an adjustment to be made.

1.2 Summary of our findings

4. The calculation of the CESS relies on a comparison of the transmission network service provider's (TNSP) actual capital expenditure compared to the forecasts that were built into the revenue cap for the regulatory period in question.[2] The intention is to reward or penalise TNSPs for a change in efficiency with respect to capital expenditure.

5. There are a range of reasons, however, why the CESS may not provide an accurate measure of a change in efficiency, and indeed may be materially incorrect. The reasons for this include:

---

1 AER, 'Draft Decision, ElectraNet Transmission Determination 2023 to 2028, Attachment 9, Capital expenditure sharing scheme', September 2022.

2 Noting the revenue cap is adjusted only for the effects of contingent projects and cost pass throughs.

a. A TNSP provides 'less' or 'more' than was built into the allowance for the regulatory period, and / or

b. Where the cost to a prudent and efficient firm undertaking the relevant capital works changes relative to forecast.

6. In order to avoid exposing TNSPs and customers to substantial risk in the face of the circumstances identified here, the 'best practice' approach to the CESS calculation would be to seek to eliminate more of the exogenous elements from the calculation of efficiency through explicit adjustments to the CESS calculation.

7. The AER has correctly identified that when a TNSP delivers 'less' than expected (for instance through a deferral) an adjustment to the CESS may be justified (at least where the amount is material) to avoid creating windfall gains to the TNSP. Not making an adjustment would create an incentive for TNSPs to defer projects into future periods even where this was inefficient.[3]

8. The AER has also correctly indicated, in our view, in its Capital Expenditure Incentive Guideline that it will not adjust for a deferral, even where the deferral is material, if the TNSP has not underspent its allowance by a material amount. This approach makes economic sense because it permits the AER to take into account other factors that could cause a material divergence between the unadjusted CESS calculations and the actual change in efficiency of the TNSP. Consistent with the above discussion, those other factors include where:

a. the TNSP re-prioritised its capital expenditure projects, and effectively replaced the deferred projects with other projects, or

b. the deferral was undertaken in response to changes in the cost that a prudent and efficient TNSP would need to incur over the regulatory period.

9. The AER's approach in its Capital Expenditure Incentive Guideline to not make an adjustment where there has not been a material underspend during the regulatory period preserves the incentive for TNSPs to re-prioritise capital projects in response to a project deferral when it is efficient to do so. This benefits customers by:

a. reducing the inherent risk profile of the system, particularly where re-prioritised projects are replacement expenditure, and

b. permitting a smooth profile for project delivery and so avoid the need to draw on high-cost resources during peak periods.

10. Analysis we have undertaken demonstrates that if an adjustment is made for a deferred project, but no recognition is given to this deferral being replaced with another project, a material penalty would be created under the CESS. This is a penalty that would not align with the changes to economic efficiency that have been created. Conversely, not making

[3] Under the guideline, the CESS is also adjusted for the effects of cost pass-throughs and the triggering of contingent projects.

an adjustment for a deferral where this is replaced with a project of approximately the same size delivers the approximately correct outcome.[4]

11. With respect to ElectraNet, it chose to re-prioritise its capital program several times during the regulatory period in response to exogenous events. The most recent change occurred once it became known that the completion of Project Energy Connect (PEC) would be delayed into the early part of the 2023-28 period. In response, ElectraNet brought back projects that were previously delayed into the 2023-28 period because of efficient reprioritisation of its capital program. As a consequence, it is expected to incur actual capital expenditure within 2 per cent of its forecast capital expenditure for the 2018-23 period.

12. It is our view that the criteria for making an adjustment for the deferral of PEC is not met with respect to ElectraNet. Recognising the Capital Expenditure Incentive Guideline requires all of the criteria to be met, it is our view that no adjustment should be made to ElectraNet's CESS payment. Our view is based primarily on the application of clause (b) of the AER's criteria.

13. Specifically, in relation to clause (b), the re-prioritisation of capital expenditure when faced with a deferral of a project is precisely the behaviour that is intended by that criterion.[5] Applying a deferral adjustment would create a material barrier to such re-prioritisation that would be to the detriment of the long-term interests of consumers. Moreover, we do not consider it is reasonable to view a difference between forecast and actual capital expenditure of less than 2 per cent as being sufficiently material to encourage perverse incentives and systemic gaming behaviour from TNSPs.

14. Accordingly, the correct application of the CESS in this circumstance is to apply the CESS without a capital expenditure deferral adjustment. This aligns with the intent of the Capital Expenditure Incentive Guideline and applies the correct incentive to the business.

4 See Appendix A.

5 This assumes that the value of deferrals is approximately equivalent to the value of projects that have been advanced, unexpected projects and the effect of unexpected, material input price increases. If these latter effects are of materially lesser value than the deferral then, in principle, it would be correct to make an adjustment for deferrals, but only for the extent of the deferral that is in excess of the value of these other effects.

2. Framework for deciding to adjust the CESS for a deferral

2.1 Introduction

15. In this chapter we describe the economic principles associated with the CESS. We focus also on the circumstances when projects are deferred or advanced and when there is a re-prioritisation of a TNSPs capital program.

2.1.1 Incentive regulation and the purpose of the CESS

16. Incentive regulation is intended to expose a regulated business to a share of the societal benefits and costs that its conduct creates. The intention is to motivate conduct that is consistent with economic efficiency and the delivery of long-term benefits to customers. The "share" in this context defines the power of the incentive to undertake the motivated action, with the remainder being the share of the gain that is delivered to customers.

17. The CESS and the related Efficiency Benefits Sharing Scheme (EBSS) are tools of incentive regulation that have the objective of encouraging regulated businesses to be efficient with respect to their expenditure. Both are intended to provide businesses with a predetermined share of the societal benefit or cost that is created where expenditure is lower or higher than forecast.

18. As will be discussed further below, it is important to recognise that performance relative to a forecast is not, of itself, evidence of efficiency. This is because expenditure forecasts cannot predict with perfect foresight the circumstances that will be faced by a business at the time it makes an investment decision. We note that this is particularly the case in transmission where projects are lumpy and so the timing, cost, and need for projects, can be less certain and driven by exogenous factors.[6]

19. The CESS calculation involves four steps.

    a. First, the forecast capital expenditure for a regulatory period is compared to the capital expenditure allowance, and annual differences are identified.

    b. Secondly, the present value of the annual differences is calculated, and this is assumed to reflect the societal change in capital costs associated with those annual differences. This is multiplied by the sharing factor to derive the intended benefit to the TNSP.

    c. Thirdly, the benefit the TNSP received during the period from those annual differences as a consequence of revenues being capped (and so independent of capital expenditure) is calculated, again in present value terms.

    d. Fourthly, the difference between the intended benefit and the actual benefit is derived and applied in the next regulatory period.

[6] Whereas distribution, for instance, can be viewed as involving a more continuous and predictable program of work.

2.2 Outcomes under the basic operation of the CESS might not match efficiency

20. A key outcome sought under any incentive framework is that TNSPs make investment decisions that promote the long-term interests of consumers rather than simply deliver what was forecast or aim to beat the expenditure forecast by as much as possible. Therefore, it should not be automatically assumed that simply underspending against the forecast set in previous years represents economic efficiency. Indeed, in some cases spending above the expenditure allowance may be more efficient than spending less. As such, the primary objective should be to encourage TNSPs to alter their actual expenditure program relative to the forecast based on the specific circumstances they face at the time.

21. As noted above, the calculation of the CESS relies on a comparison of the TNSP's actual expenditure compared to the forecasts that were built into the revenue cap for the regulatory period in question. The only adjustments made to the revenue cap are with respect to contingent projects and any cost pass throughs. However, there are a range of reasons why this simple calculation may not provide an accurate measure of a change in efficiency, and indeed may be materially incorrect. These reasons include:

    a. The TNSP provides 'less' or 'more' than was built into the allowance for the regulatory period, for instance:

        i. there have been unexpected new projects required during the period

        ii. there are constraints on the ability to deliver a project within a period

        iii. there has been a change in obligations that require additional, or different, things to be built, which does not meet the requirements for a cost pass-through[7]

        iv. the risk profile of the system suggests a different timing for certain projects, or

        v. changes to outturn demand might mean projects need to be brought forward or delayed.

    b. The cost to a prudent and efficient firm undertaking the relevant capital works changes relative to the forecast. We note that the current COVID-19 pandemic has imposed significant upward pressure on input costs, not least due to the disruption on global supply chains, which we expect has made it particularly challenging during this period for network businesses to maintain expenditures within forecast levels.

22. It follows that simple CESS calculations have the potential to provide rewards or penalties based upon a materially wrong proxy for the changes in efficiency. Such rewards and penalties could, in turn, expose customers and TNSPs to excessive risk, as well as motivating behaviour that is antithetical to the interests of customers.

[7] As noted earlier, the CESS calculation is adjusted where a cost pass-through occurs.

23. The 'best practice' approach to the CESS calculation to manage the risks identified here would be to seek to eliminate as many of the factors as possible that may cause the simple CESS calculation to misalign with a true change in efficiency, which would include adjusting for changes in exogenous input costs and the outputs during the regulatory period compared to the forecast.

24. In the remainder of this section we consider how the CESS can be applied to minimise the risks of delivering a materially wrong payoff when outcomes differ from what was expected in the original forecasts.

2.2.1 Avoiding windfall gains and losses from TNSPs doing 'less' or 'more' than forecast

25. Under the simple CESS calculations, a deferral between regulatory periods will be rewarded as if there was a permanent reduction in cost, whereas a consequence of the deferral is that expenditure will rise in the next period. Equally, an advancement will be treated as if cost had increased permanently, whereas a consequence of the advancement is that expenditure in the next period will be lower than otherwise. In both cases the assumed change in efficiency will be measured incorrectly because the effect on expenditure requirements in the next period is ignored.

26. Accordingly, where a deferral or advancement between regulatory periods is material and all else is constant, there is a prospect of outcomes emerging that do not promote the long-term interests of consumers. Therefore, making an adjustment to the CESS is justified given the consequences of not adjusting the CESS in this circumstance, namely:

    a. First, where a project is deferred, absent a change to the CESS calculation, the TNSP could be subject to a material windfall gain, and conversely, a material windfall loss for consumers.

    b. Secondly, a failure to make a change to the CESS calculation may change the behaviour of the TNSP in a manner that is detrimental to the interests of customers. As the AER has recognised, an excessive incentive would be created to defer projects, and so excessive deferral may be encouraged to the detriment of customers (for example, via the creation of excessive risk for customers). Equally, a TNSP may spot an opportunity whereby advancing of a project would be in the interests of customers; however, unless the penalty under the CESS for the advancement was calculated correctly, then this efficient behaviour would be dissuaded and the associated benefits to customers would be lost.

27. The AER's current CESS recognises the incentive issues for a deferral such that it has determined it will make an adjustment to the CESS when faced with a material deferral of expenditure from one period to the next. Specifically, the AER states the following regarding deferrals in its Explanatory Statement for the Capital Expenditure Incentive Guideline:[8]

[8] AER, 'Better Regulation, Explanatory Statement, Capital Expenditure Incentive Guideline for Electricity Network Service Providers', November 2013, pp.42.

We consider that such an adjustment will help to ensure that where material amounts of capex are deferred between regulatory control periods, consumers receive a commensurate benefit from such deferral.

Need for deferrals to be material before an adjustment is made

28. We note that the criteria in the Capital Expenditure Incentive Guideline require that both the deferral and the adjustment to the forecast in the next period be material before an adjustment to the CESS will be made. We consider this approach to be correct. In particular, it recognises that there may be numerous smaller projects that may be either deferred or advanced over time as a matter of course. The AER is therefore signalling an intent to focus on cases where a material windfall gain or loss may occur, and also where the potential exists for perverse incentive effects.

29. We understand that the clauses (a) and (c) of the AER's criteria for making an adjustment to the CESS when there is a deferral go to this matter of materiality.

2.2.2 Preserving the incentive to re-prioritise expenditure and manage other risk

30. The situation described in the previous section is one where projects are deferred or advanced and all else is constant (including that the TNSP does nothing else in response to the deferral). However, it is possible for a TNSP, when faced with a change in circumstances, to re-prioritise their capital work program. A re-prioritisation of the capital program in this scenario is something that can promote the long-term interests of consumers, which we elaborate upon below. Therefore, it is important that TNSPs are not discouraged from undertaking a re-prioritisation of their work program when this would advance efficiency.

31. If an adjustment is made to the CESS for a deferral of capital expenditure, a TNSP re-prioritises its capital expenditure program in response, and no further adjustments to the CESS calculation are made to recognise that the deferral may have been replaced by a different project, then the TNSP would incur a material penalty as a consequence of this re-prioritisation. This penalty would occur even though the TNSP's actions in re-prioritising its projects may clearly have advanced the interests of customers. The prospect of incurring this penalty may cause TNSPs to avoid otherwise efficient re-prioritising of their capital expenditure programs.

    a. Appendix A demonstrates, via simple scenarios, how the CESS calculations would lead to the incentive outcomes that we describe here. The calculations in the appendix:

        i. Assume that a TNSP has deferred a project and that the CESS is adjusted for the deferral (this is the baseline position).

        ii. It then shows that the TNSP will incur a substantial penalty compared to this baseline position if the TNSP responds to the deferral by undertaking other works in the place of the deferred project, assuming no further adjustments are made to the CESS.

The penalty incurred from undertaking the substitute works, compared to the situation where no substitute works were done in response to the deferral, would create an incentive against such re-prioritisation of works.

32. The benefits to customers from ensuring TNSPs retain an incentive for efficient re-prioritisation of the work program when a deferral of expenditure occurs include:

a. Customers are better off when TNPS undertake projects that reduce inherent risk in the system (i.e. the replacement of aging assets) and when the TNSP does this in response to up-to-date information rather than relying on forecasts made during the revenue determination process. However, if re-prioritisation is discouraged through the CESS, this is a benefit that customers would not receive.

b. Customers benefit from the efficient sequencing of projects – and avoidance of unnecessary "peaks and troughs" in the investment program – given that this can lower the overall cost of delivering a capital expenditure program. Discouraging reprioritisation and reordering of a capital program creates the prospect of higher cost resources being needed to deliver the capital program due to a strain on available resources. We note that this is something that the AER has specifically recognised before stating that a smooth profile for a capital program is better for customers given it can reduce costs:[9]

Unnecessary peaks and troughs in a NSP's investment programs can result in higher costs than a more stable work program. For example, if a large number of projects are undertaken during the final years of the regulatory control period, NSPs may rely more on external contractors for projects that could have been undertaken more efficiently by in-house staff. NSPs may also enter into less cost-effective contracts with external contractors if they are contracting at shorter notice and for a smaller scope of work rather than if they were offering a steady stream of work.

33. The ideal treatment when a capital program has been re-prioritised is to specifically address the circumstances that have occurred. This would involve adjusting the CESS calculations to reflect the substitute works undertaken during the regulatory period. However, as we show in Appendix A, not making an adjustment to the CESS for a deferral when there has been a re-prioritisation of capital expenditure of similar value to the deferral leads to an outcome that is equivalent to adjusting comprehensively for all changes to the work program. Moreover, this approximation is sufficiently close as to be unlikely to lead to a barrier to the efficient re-prioritisation of expenditure.

34. The AER indicates that the aim of clause (b) in its criteria for deciding whether to make an adjustment following a deferral is to ensure that a TNSP will retain an incentive to re-prioritise their capital expenditure program in response to changing circumstances during the regulatory control period. It is our opinion that the AER is correct to give recognition to the benefits of re-prioritisation following a deferral. Further, not making

[9] AER, 'Better Regulation, Explanatory Statement, Capital Expenditure Incentive Guideline for Electricity Network Service Providers', November 2013, p.19.

an adjustment to the CESS in this circumstance is appropriate given it is administratively simple and, as identified here, delivers approximately the correct payoff.

35. In explaining that clause (b) is designed to ensure TNSPs maintain incentives to re-prioritise their capital expenditure budgets in response to changing circumstances, the AER points to the reality that the expenditure forecast should not dictate the work that TNSPs actually undertake during the period. Specifically, the AER states:[10]

While our forecast of capex for a regulatory control period is partly informed by our forecast of the prudent and efficient capex the NSP will need to complete discrete projects or programs, this is only to inform our total forecast of capex for the regulatory control period. We consider most of the time, a NSP is best placed to decide the projects and programs it needs to carry out once it knows its forecast capex allowance. This means, from time to time, a NSP may choose to defer some discrete projects that we initially considered to be prudent and efficient when forming our forecast of total capex for the regulatory control period. Conversely, it may also choose to bring forward other discrete projects that we had not previously assessed when setting our forecast of capex for the regulatory control period.

36. A further circumstance that may warrant consideration of whether to apply a deferral adjustment is where deferrals have been used to manage the requirement to undertake material projects that were not expected during the previous revenue cap review (and so not included in the allowance) or to manage a material, unexpected change in (exogenous) input prices.[11] As noted earlier, the basic nature of the CESS calculations means that in both of these cases, the fact that "more" projects have been undertaken or the prudent and efficient costs have changed would not be factored into the CESS calculations, and wrongly diagnosed as a reduction in efficiency.

37. Again, the most accurate manner to account for the occurrence of unexpected projects or unexpected changes in input prices would be to make explicit adjustments within the CESS itself. However, as with the earlier discussion, not applying an adjustment for project deferrals (where these are of a similar value) would generate an approximately equivalent outcome. We observe that the drafting of clause (b) contemplates deferrals being used to manage the risk of unexpected projects and unexpected material changes in input prices.

---

10 AER, 'Better Regulation, Explanatory Statement, Capital Expenditure Incentive Guideline for Electricity Network Service Providers', November 2013, pp.32.

11 In our view, there is a case for permitting deferrals to be used to manage the risk of material, exogenous input price changes given the potential size of this risk and the absence of any adjustments within the CESS for input price changes (aside from CPI), although care would be required to ensure that deferrals cannot be used to offset inefficiency and/or imprudence. Where unexpected projects are undertaken, we think there is a strong case for applying these against any deferral.

3. Application of the deferral criteria to ElectraNet

3.1 Introduction

38. In this chapter we consider the criteria for a deferral with specific respect to the ElectraNet situation. This includes a consideration of ElectraNet's circumstances, the AER's Draft Decision and our views on the application of the criteria given the ElectraNet's circumstances.

39. In summary, it is our opinion that an adjustment should not be made for the deferral of PEC. This is primarily because clause (b) has not been met. Indeed, ElectraNet's actions were precisely what clause (b) endeavours to encourage TNSPs to do when faced with a deferral.

3.2 ElectraNet's circumstances and the AER's Draft Decision

3.2.1 ElectraNet's stated position

40. We understand that the relevant facts of the current matter are that:

    a. During the current 2018-23 regulatory period ElectraNet was faced with a number of material unexpected expenditure items, and also identified that delivering on its capital program was more costly than forecast. As a consequence, it decided that it would be prudent to shift a number of projects into the 2023-28 regulatory period.

    b. The PEC project was expected to be completed during the 2018-23 period; however, the completion of the project was later deferred into the start of the 2023-28 regulatory period. We understand that the deferral was outside of ElectraNet's control.

    c. The deferral meant that ElectraNet now had the capacity to undertake other capital works. This available capacity was used to undertake projects that were forecast for the 2023-28 period, most of which had earlier been deferred from the 2018-23 period as noted earlier.

41. The ElectraNet Revenue Proposal treated a delay in the completion of PEC into the next regulatory period as a deferral for the purposes of the CESS. A corresponding adjustment was made to the CESS to remove any benefit derived from the delay of the project between periods.[12] However, ElectraNet identified in its Revenue Proposal that the adjustment was made in error but because this was recognised too close to the submission date it could not be rectified in time.[13]

42. The error arose because ElectraNet did not account for the re-prioritisation of its capital expenditure program that was made possible due to the delay of the PEC. The rebalancing of its capital program meant that the actual expenditure incurred for the

[12] ElectraNet, 'Attachment 9, Capital Expenditure Sharing Scheme, Revenue Proposal 2023-24 to 2027-28', 31 January 2022, p.7.

[13] Korte, Rainer. Letter to Jim Cox. Sent 9 May 2022, p.3.

current period is expected to be very close to the expenditure outcome that would have occurred without the deferral, and that continuing to apply the deferral adjustment (absent any other adjustment to recognise the substitute works) would penalise ElectraNet for actions that were to the benefit of customers.

3.2.2 AER draft decision

43. The AER's Draft Decision made an adjustment for the deferral of the PEC project, but did not make any further adjustment to the CESS calculations, and so does not account for the re-prioritisation of ElectraNet's capital expenditure program. The AER made its decision having regard to the three criteria in the Capital Expenditure Incentive Guideline outlined in section 1.1 of this report. Specifically, its Draft Decision was that:

a. The materiality threshold has been met for each of the criteria listed, where the AER concluded as follows:[14]

   We consider that based on the objectives of the CESS, the intent of the deferral mechanism in the Guideline and our previous CESS decisions, ElectraNet's deferred Project EnergyConnect capex of $60.2 million ($nominal) has satisfied all three materiality conditions for the treatment of the materiality of deferred capex for an adjustment to the CESS revenue increments/decrements.

b. The AER considered in the context of clause (b) that a 1.6 per cent underspend from the capital expenditure allowance was material. The AER noted that the underspend came in the context of ElectraNet incurring additional costs on projects included in the original allowance and also on new projects that were not previously forecast. An implication that can be drawn is that the AER does not consider these circumstances justify a re-prioritisation of a capital expenditure program. Specifically, it stated:[15]

   ElectraNet deferred $60.2 million ($nominal) capex for Project EnergyConnect and reported a capex underspend of $22.6 million ($nominal). This indicates that ElectraNet has reprioritised its capex. However, ElectraNet has used funds that were originally forecast for Project EnergyConnect to reduce its underspend during the 2018–23 period. This underspend was achieved by ElectraNet either spending more than forecast on projects included in its capex forecast in our final decision and/or undertaking capex for projects that were not included in our forecast for the 2018-23 period. Although this has the effect of reducing the capex underspend during the 2018-23 period, we consider capex of $22.6 million to be material noting a large project was deferred.

   i. We note also that with respect to this criterion the AER also stated that the projects that were advanced had not been subject to consultation or assessment

[14] AER, 'Draft Decision, ElectraNet Transmission Determination 2023 to 2028, Attachment 9, Capital expenditure sharing scheme', September 2022,p.7

[15] AER, 'Draft Decision, ElectraNet Transmission Determination 2023 to 2028, Attachment 9, Capital expenditure sharing scheme', September 2022,p.7

by the AER or consumers and this is not desirable or consistent with the intent of the Guideline. On this matter the AER stated:[16]

We do not consider that it is desirable or consistent with the intent of the Guideline for a network to choose to spend their capex on projects that have not been consulted on with consumers, and/or assessed by us, and ask for capex for important projects that we have approved before again. The purpose of the underspend criteria was to ensure that networks have the scope to reprioritise their capex when it was efficient to do so.

c. Regarding clause (c) the AER identified that ElectraNet reproposed 8.5 per cent of capital expenditure in the 2023-28 forecast and that the increase was material.

44. In addition to its assessment under the criteria, the AER expressed an additional concern. This was that not making the adjustment in the face of a re-prioritised work program would permit NSPs to propose major projects but then undertake other capital expenditure by spending on its own preferred projects in order to avoid CESS implications. Specifically, the AER stated:[17]

We also have concerns that ElectraNet's approach would permit a network to propose a major project, undertake other capex by spending on its own preferred projects, including projects that have not been consulted on with consumers and/or assessed by us, and bypass any CESS implications of a deferral.

3.3 Our assessment against the deferral adjustment criteria

45. We focus our consideration here against criterion (b) given that it has the most economic content, in light of our discussion in section 2.2.2.[18] As identified in our summary above, it is our opinion that the threshold for clause (b) has not been met in this instance. We take this view for the following reasons:

a. The value of the underspend relative to the benchmark allowance is not material, and

b. Given the stated purpose of clause (b), making an adjustment given ElectraNet's re-prioritisation would distort future investment decisions because it imposes a penalty on re-prioritising capital expenditure.

46. In the remainder of this section we explain why we have reached these views.

---

16 AER, 'Draft Decision, ElectraNet Transmission Determination 2023 to 2028, Attachment 9, Capital expenditure sharing scheme', September 2022, p.7.

17 AER, 'Draft Decision, ElectraNet Transmission Determination 2023 to 2028, Attachment 9, Capital expenditure sharing scheme', September 2022, p.8.

18 We observe that there is some overlap between the three clauses. The reference to "deferral" in clauses (a) and (c) only makes economic sense if this is a refence to the overall, net deferral, being net of any offsetting advancements from the next regulatory period. In addition, as discussed earlier, there is also a strong case for offsetting any unexpected projects against deferrals and a case for offsetting the effects of unexpected, material changes in (exogenous) input prices. However, if all of these factors are considered, then the decision criteria collapse to clause (b).

3.3.1 The value of the underspend relative to the benchmark allowance is not material

47. The AER has not provided guidance in its Capital Expenditure Incentive Guideline on how it will assess materiality for this clause. Further, we are not aware of any commentary by the AER when considering deferrals for other TNSPs that provides an indication of what is the threshold for materiality in the context of clause (b). Nevertheless, we do not consider it is reasonable to view a difference between forecast and actual capital expenditure of less than 2 per cent as large enough to encourage perverse incentives and systemic gaming behaviour from TNSPs. Therefore, from an incentives perspective we do not consider the difference to be material.

48. In addition, we do not think that a difference of 2 per cent is material in the context of the uncertainty that exists with respect to the forecasting of capital expenditure for a transmission network over a five-year period. This is particularly the case given:

    a. The amount is comparable to what might be caused by standard changes to exogenous parameters within a regulatory period.

    b. It is unreasonable to expect a TNSP to achieve the forecast more precisely than ElectraNet has done. Indeed, for ElectraNet to satisfy the AER's views on materiality in this instance it is effectively encouraging ElectraNet to ignore efficient expenditure and spend more merely to reduce the gap between the forecast and actual expenditure.

3.3.2 ElectraNet's behaviour was consistent with the intent of clause (b)

49. As indicated above, the AER stated in its Explanatory Statement for the Capital Expenditure Incentive Guideline that the purpose of clause (b) is to ensure TNSPs face an incentive to re-prioritise their capital expenditure budget in response to changing circumstances during a regulatory control period. This is exactly what ElectraNet has done. Therefore, it would be an error to penalise ElectraNet for behaving in a way that is consistent with the intent of the criteria.

50. It would appear that the actions of ElectraNet during the current regulatory period reflect the behaviour expected by a prudent TNSP in the circumstances.[19] That is, when conditions changed ElectraNet responded to those changes. Specifically, when faced with cost and supply chain challenges, driven in a large part by the COVID-19 pandemic, it decided to delay some projects following a risk-based assessment. Then when PEC was delayed for reasons outside of ElectraNet's control, it identified that it would be able to re-prioritise its work program and bring back projects that otherwise would have been done in the 2023-28 regulatory period. This delay in PEC also meant that ElectraNet was

[19] As noted previously, the discussion in this section assumes that the value of deferrals is approximately equivalent to the value of projects that have been advanced, unexpected projects and the effect of unexpected, material input price increases. If these latter effects are of materially lesser value than the deferral then, in principle, it would be correct to make an adjustment for deferrals, but only for the extent of the deferral that is in excess of the value of these other effects.

able to undertake several projects that were necessary but not anticipated for the period without needing to exceed its regulatory allowance.

51. As identified above, ElectraNet's behaviour is consistent with the promotion of economic efficiency given it reduces the inherent risk in the system (recognising a large proportion of projects were for replacement) and it avoid peaks and troughs in the investment program that might impose inefficiently high costs onto customers.

52. One of the AER's specific motivations for making an adjustment for the deferral of PEC was that, otherwise, the deferral of PEC would be used to offset the cost of unexpected projects during the regulatory period, as well as to offset the unexpected increase in input costs.[20] While the AER is correct that this would be the effect if a deferral adjustment is not made, as we have discussed earlier, there is a strong argument for permitting deferrals to be applied to offset the cost of unexpected projects, and also a case for permitting the effects of unexpected, material input prices to be offset.[21] That is, given that adjustments are not made in the CESS calculations for the effects of unexpected projects or for the effect of material unexpected input price increases, where such events do occur, they will be diagnosed as an inefficiency. However, this diagnosis would be a material error. Permitting deferrals to be offset against the effects of such events would reduce the potential for the outcomes of the CESS to be materially incorrect.

53. We note, in addition, that the efficiency of ElectraNet's actual investment behaviour has been confirmed by the AER in its Draft Decision. It undertook a review of its historical capital expenditure over the 10-year period between 2014-2023 and found that the overspend that did occur for the 2016-17 to 2020-21 regulatory years did not suggest inefficient capital expenditure was incurred. Specifically, the AER stated the following with respect to the efficiency of ElectraNet's capital program:[22]

> *We also reviewed ElectraNet's historical capital expenditure and allowance for the 10-year period 2014 to 2023. Over this period, ElectraNet is estimated to have underspent its capex allowance by 2.4%. This illustrates the uncertainty of the timing of transmission capex projects and the impact this timing has when comparing actual and forecast capex over any given five-year period. We do not consider that ElectraNet's overspend for the 2016–17 to 2020–21 regulatory years suggests a systemic inefficiency of ElectraNet's capex.*
>
> *Based on our analysis, we consider that ElectraNet's total actual capex for the ex post review period is likely to reasonably reflect the capex criteria. We are therefore satisfied that including this actual capex in the RAB is likely to contribute towards achieving the capital expenditure incentive objective.*

---

20 AER, 'Draft Decision, ElectraNet Transmission Determination 2023 to 2028, Attachment 9, Capital expenditure sharing scheme', September 2022, p.7.

21 The drafting of clause (b) also clearly contemplates unexpected projects and unexpected increases in input prices being applied as an offset against deferrals.

22 AER, Draft Decision, ElectraNet Transmission Determination 2023 to 2028, Attachment 5, Capital expenditure, September 2022, p.31.

54. Thus, the AER's own conclusions suggest permitting unexpected projects and the effects of unexpected material input price increases to be offset against deferrals would not have the effect of shielding ElectraNet from inefficiency.

3.4 Comment on other reasons given by the AER

3.4.1 Additional reasons given by the AER to reject the ElectraNet proposal

55. The AER raised two other reasons for its decision to impose an adjustment to ElectraNet's CESS payment that were not directly related to the criteria that it set out. These were that:

a. The projects that were advanced had not been subject to consultation or assessment by the AER or consumers, and

b. Not making an adjustment would permit NSPs to propose major projects but then undertake other capital expenditure by spending on their own preferred projects to avoid CESS implications.

56. We address these additional reasons here.

3.4.2 Prior consultation

57. Many of the projects that were brought forward by ElectraNet are projects that were included in the forecast for the current regulatory period. Therefore, these are projects that have already been publicly exposed and presented to the AER.

58. Irrespective, there is no requirement for the AER, or customers, to pre-approve specific expenditure undertaken by TNSPs – indeed, this is entirely counter to the incentive regulation approach that applies in the NEM where TNSPs are given an allowance and then are expected to identify the most efficient expenditure to incur within a period.

59. The fact that there is no requirement for the regulator to pre-approve expenditure is done in recognition of the asymmetric information between TNSPs and a regulator, whereby, the TNSP is best placed to know what the most efficient project and its associated timing is. This is particularly pertinent for replacement capital expenditure given this is expenditure that must occur at some point but requires technical knowledge of the inherent risk associated with the assets and so the consequences associated with delaying or bringing forward replacement. The Productivity Commission explained this intention for incentive regulation well in its report on Electricity Network Regulatory Frameworks, stating:[23]

Incentive regulation is used to partially overcome the information asymmetries between the regulator and the regulated business. Absent these asymmetries, it would be possible to regulate the monopoly business using 'optimal' prices, which could be set using either

[23] Productivity Commission, 'Electricity Network Regulatory Frameworks, Productivity Commission Inquiry Report, Volume 1', No.62, 9 April 2013, p.189.

marginal cost pricing or Ramsey-Boiteux pricing techniques (Vogelsang 2002). However, these conditions are rarely, if ever, met in practice.

Another important feature of incentive regulation is that it is based on high-level outcomes, such as yearly expenditure and network reliability. It is designed to leave the day-to-day decisions, such as project choice and the timing of asset replacement, to the network business.

60. The AER's stated approach to assessing capital expenditure identifies that it does not intend to undertake a detailed review of all projects. Instead, it attempts to ensure that projects have been planned on a reasonable basis using robust techniques. To the extent project based analysis is undertaken this is done to confirm the reasonableness of the forecasting approach taken rather than to formally approve whether a specific project can be undertaken or not. This is evident in statements by the AER in its capital expenditure chapter of the Draft Decision. Specifically, it stated that it does not approve specific projects and that ElectraNet should have flexibility to prioritise its capital expenditure program based on changes to information and technology over time:[24]

We do not approve a particular category of capex or specific projects, but rather an overall amount. However, as part of our assessment, we do review categories of expenditure and particular projects to test whether ElectraNet's proposed total forecast capex reasonably reflects the capex criteria.

61. And:[25]

Once the ex-ante capex forecast is established, there is an incentive for ElectraNet to provide services at the lowest possible cost, because the actual costs of providing services will determine its returns in the short term. If it reduces its costs, the savings are shared with consumers in future regulatory control periods. This incentive based framework recognises that ElectraNet should have the flexibility to prioritise its capex program given its circumstances in the regulatory control period and due to changes in information and technology over time.

62. It is worth noting also that even the ex-post review arrangements, which would require detailed review of specific projects, are only triggered in limited circumstances.[26] This is recognition that a detailed review of specific projects should only be undertaken where there is evidence of material inefficiency.

---

24 AER, 'Draft Decision, ElectraNet Transmission Determination 2023 to 2028, Attachment 5, Capital Expenditure', September 2022, p.2.

25 AER, 'Draft Decision, ElectraNet Transmission Determination 2023 to 2028, Attachment 5, Capital Expenditure', September 2022, p.8

26 Schedule 6A.2.2A of the National Electricity Rules provides that the AER can only make a reduction in past capital expenditure where the TNSP has spent more than its forecast allowance and the capital expenditure does not meet the capital expenditure criteria. The AER cannot undertake this assessment where actual expenditure is within the forecast allowance.

3.4.3 Spending to avoid CESS implications

63. There is no incentive for TNSPs to replace forecast projects with its own preferred projects.

64. The natural incentive is for TNSPs to not bring forward any expenditure given they still bear a share of the social cost of doing so after the CESS has been adjusted.[27] The AER's approach in its Draft Decision means, however, that projects may still be deferred (given TNSPs are largely neutral to this after an adjustment is made), but TNSPs would have a very strong incentive not to bring forward projects to smooth out capital programs even when this is the most efficient outcome for customers. Instead, TNSPs would be better off including the projects that could have been advanced in the next revenue proposal. Customers would be worse off given the benefit they would have received from advanced projects will be delayed and there is an increased prospect that the lumpiness in program delivery that is induced makes it more costly to deliver the capital expenditure program.

[27] To be clear, the adjustment to the CESS that is discussed in this report would ensure that a TNSP bears 30 per cent of the correctly-calculated societal cost of advancing a project where such an advancement occurs.

A. Operation of the CESS under different scenarios

65. Figure 1 shows the standard calculation of the CESS where there is a deferral of a project from one period to the next where there is no further re-prioritisation of the expenditure. In the figure, there is assumed to be underspend in year 4, but an assumed equal addition to the capital expenditure allowance in year 7 (the second year of the next regulatory period), reflecting the new date for the expenditure. Further, it is assumed that an adjustment is made for the deferral applying the method the AER applied in the ElectraNet Draft Decision.[28] Under these assumptions, the deferral of the project after the deferral adjustment would generate a reward for the TNSP, but only a small one (share to the NSP of 0.88), reflecting the fact that the benefit created is only the time value effect of deferring a project by three years.[29]

Figure 1 – CESS with a material deferral, deferral adjustment is applied

WACC (real)	5.00%									
Sharing ratio	30%									
Year	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**
Discount factor (mid-year to end of period)	1.246	1.186	1.130	1.076	1.025	0.976	0.929	0.885	0.843	0.803
Discount factor (end of year to end of period)	1.216	1.158	1.103	1.050	1.000	0.952	0.907	0.864	0.823	0.784
Period 1 outcomes										
Capex allowance	100.00	100.00	100.00	100.00	100.00					
Actual capex	100.00	100.00	100.00	80.00	100.00					
Annual under-spend (over-spend)	0.00	0.00	0.00	20.00	0.00					
Effect on period 2 capex forecast										
Additional capex allowance							-20.00			
1. Calculation of benefit created and target share										
Underspend in period 1 (NPV)					21.52					
Offset for effect on period 2 allowance (NPV)					-18.59					
Adjusted underspend (NPV)					2.93					
Share to NSP 30%					0.88					
2. Calculation of benefit received under the revenue cap										
Difference between forecast and actual RAB	0.00	0.00	0.00	0.00	20.49					
Additional return received during period	0.00	0.00	0.00	0.00	1.02					
Additional return (NPV)					1.02					
3. Calculation of CESS carry-forward (the difference)										
CESS amount for next period (NPV)					-0.15					
Annual CESS amount						-0.03	-0.03	-0.03	-0.03	-0.03

66. Figure 2 assumes that the TNSP responds to the deferral of the project by re-prioritising other projects in order to maintain an approximately even delivery of projects over time. In the figure, it is assumed that in response to the deferral the TNSP initiates another project of the same value in year 5. However, the deferral adjustment assumed in Figure 1 is assumed to be applied.

28 Where we refer below to the CESS calculation as not being adjusted, we mean that the simple CESS calculation in which a comparison is simply made between actual capital expenditure and the capital expenditure allowance for the regulatory period. We refer to the CESS as being adjusted if a change is made to this simple calculation, such as to account for a deferral (i.e., as the AER has proposed in the Draft Decision).

29 A negative CESS penalty is created given that the financing benefit to the TNSP would have exceeded the target efficiency reward, but again the value of the adjustment is very small (-0.15 in total).

Figure 2 – CESS with a deferral and reprioritisation, deferral adjustment is applied

WACC (real)	5.00%									
Sharing ratio	30%									
Year	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**
Discount factor (mid-year to end of period)	1.246	1.186	1.130	1.076	1.025	0.976	0.929	0.885	0.843	0.803
Discount factor (end of year to end of period)	1.216	1.158	1.103	1.050	1.000	0.952	0.907	0.864	0.823	0.784
Period 1 outcomes										
Capex allowance	100.00	100.00	100.00	100.00	100.00					
Actual capex	100.00	100.00	100.00	80.00	120.00					
Annual under-spend (over-spend)	0.00	0.00	0.00	20.00	-20.00					
Effect on period 2 capex forecast										
Additional capex allowance							-20.00			
1. Calculation of benefit created and target share										
Underspend in period 1 (NPV)					1.02					
Offset for effect on period 2 allowance (NPV)					-18.59					
Adjusted underspend (NPV)					-17.56					
Share to NSP 30%					**-5.27**					
2. Calculation of benefit received under the revenue cap										
Difference between forecast and actual RAB	0.00	0.00	0.00	0.00	20.49					
Additional return received during period	0.00	0.00	0.00	0.00	1.02					
Additional return (NPV)					**1.02**					
3. Calculation of CESS carry-forward (the difference)										
CESS amount for next period (NPV)					**-6.29**					
Annual CESS amount						**-1.45**	**-1.45**	**-1.45**	**-1.45**	**-1.45**

67. As the figure illustrates, whilst initiating the additional project in year 5 would result in the TNSP delivering the same aggregate expenditure over the regulatory period – and spending its allowance exactly – a materially negative efficiency penalty would be created (-5.27), in turn creating a material negative CESS amount (-6.29 in aggregate). Thus, if an adjustment is made for the deferred project, but no adjustment is made to recognise where this has been replaced by another project as assumed here, then a material penalty would be created. This treatment, in turn, would be expected to create a substantial barrier to TNSPs re-prioritising their expenditure in response to a project deferral.

68. The correct response where projects are reprioritised in response to a deferral would be to adjust the CESS calculation for all changes in the scope of the TNSP's activities. The precise nature of this adjustment would depend on the precise form of re-prioritisation that occurs. One possibility is that the new project has been advanced from the next regulatory period, in which case the correct response is to recognise the effect of advancing the project on the next period's forecast, as well as recognising the effect of the deferral. This adjustment is shown in Figure 3, where the new project is assumed to have been advanced from year 6 (we refer to the second adjustment in the heading below as an "advancement adjustment").

Figure 3 – CESS with a deferral and reprioritisation (advancement), deferral adjustment and advancement adjustment are both applied

WACC (real)	5.00%									
Sharing ratio	30%									
Year	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**
Discount factor (mid-year to end of period)	1.246	1.186	1.130	1.076	1.025	0.976	0.929	0.885	0.843	0.803
Discount factor (end of year to end of period)	1.216	1.158	1.103	1.050	1.000	0.952	0.907	0.864	0.823	0.784
Period 1 outcomes										
Capex allowance	100.00	100.00	100.00	100.00	100.00					
Actual capex	100.00	100.00	100.00	80.00	120.00					
Annual under-spend (over-spend)	0.00	0.00	0.00	20.00	-20.00					
Effect on period 2 capex forecast										
Additional capex allowance						20.00	-20.00			
1. Calculation of benefit created and target share										
Underspend in period 1 (NPV)					1.02					
Offset for effect on period 2 allowance (NPV)					0.93					
Adjusted underspend (NPV)					1.95					
Share to NSP 30%					**0.59**					
2. Calculation of benefit received under the revenue cap										
Difference between forecast and actual RAB	0.00	0.00	0.00	0.00	20.49					
Additional return received during period	0.00	0.00	0.00	0.00	1.02					
Additional return (NPV)					**1.02**					
3. Calculation of CESS carry-forward (the difference)										
CESS amount for next period (NPV)					**-0.44**					
Annual CESS amount						**-0.10**	**-0.10**	**-0.10**	**-0.10**	**-0.10**

69. The result of this adjustment is that a small efficiency reward is again generated (0.59), and one that is only marginally lower than if the TNSP did not reprioritise its projects (0.59 c.f. the 0.88 from Figure 1). A change in the reward of this amount would be unlikely to form a material barrier to the reprioritisation of projects.

70. The other alternative is that the new project was an additional, one-off project, in which case the correct adjustment to the CESS would be to alter the allowance against which the degree of underspending is measured (i.e., the same approach that is applied if there is a cost pass-through or a contingent project, which we refer to in the heading below as a "change-in-scope" adjustment). The effect of changing the CESS calculation in this way is shown in Figure 4 (the cell that has been changed is shaded in yellow).

Figure 4 – CESS with a deferral and reprioritisation (one-off project), deferral adjustment and change-in-scope adjustment are both applied

WACC (real)	5.00%									
Sharing ratio	30%									
Year	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**
Discount factor (mid-year to end of period)	1.246	1.186	1.130	1.076	1.025	0.976	0.929	0.885	0.843	0.803
Discount factor (end of year to end of period)	1.216	1.158	1.103	1.050	1.000	0.952	0.907	0.864	0.823	0.784
Period 1 outcomes										
Capex allowance	100.00	100.00	100.00	100.00	120.00					
Actual capex	100.00	100.00	100.00	80.00	120.00					
Annual under-spend (over-spend)	0.00	0.00	0.00	20.00	0.00					
Effect on period 2 capex forecast										
Additional capex allowance							-20.00			
1. Calculation of benefit created and target share										
Underspend in period 1 (NPV)					21.52					
Offset for effect on period 2 allowance (NPV)					-18.59					
Adjusted underspend (NPV)					2.93					
Share to NSP 30%					0.88					
2. Calculation of benefit received under the revenue cap										
Difference between forecast and actual RAB	0.00	0.00	0.00	0.00	20.49					
Additional return received during period	0.00	0.00	0.00	0.00	1.02					
Additional return (NPV)					1.02					
3. Calculation of CESS carry-forward (the difference)										
CESS amount for next period (NPV)					-0.15					
Annual CESS amount						**-0.03**	**-0.03**	**-0.03**	**-0.03**	**-0.03**

71. As the figure shows, under this treatment, the TNSP receives the same outcome from the CESS as it would if it just deferred the project without further re-prioritisation. Accordingly, applying the two adjustments to the CESS calculation in this manner would remove any barriers to the sensible reprioritisation of projects.

72. The final option is an approximation of the previous two, which is to not apply any adjustments to the simple CESS calculations if the deferral is replaced with other projects after a re-prioritisation. This outcome is shown in Figure 5.

Figure 5 – CESS with a deferral and reprioritisation, no adjustments are applied

WACC (real)	5.00%									
Sharing ratio	30%									
Year	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**
Discount factor (mid-year to end of period)	1.246	1.186	1.130	1.076	1.025	0.976	0.929	0.885	0.843	0.803
Discount factor (end of year to end of period)	1.216	1.158	1.103	1.050	1.000	0.952	0.907	0.864	0.823	0.784
Period 1 outcomes										
Capex allowance	100.00	100.00	100.00	100.00	100.00					
Actual capex	100.00	100.00	100.00	80.00	120.00					
Annual under-spend (over-spend)	0.00	0.00	0.00	20.00	-20.00					
Effect on period 2 capex forecast										
Additional capex allowance										
1. Calculation of benefit created and target share										
Underspend in period 1 (NPV)					1.02					
Offset for effect on period 2 allowance (NPV)					0.00					
Adjusted underspend (NPV)					1.02					
Share to NSP 30%					0.31					
2. Calculation of benefit received under the revenue cap										
Difference between forecast and actual RAB	0.00	0.00	0.00	0.00	20.49					
Additional return received during period	0.00	0.00	0.00	0.00	1.02					
Additional return (NPV)					1.02					
3. Calculation of CESS carry-forward (the difference)										
CESS amount for next period (NPV)					-0.72					
Annual CESS amount						**-0.17**	**-0.17**	**-0.17**	**-0.17**	**-0.17**

73. The outcome for the TNSP under this approximate treatment is technically inferior to one where the correct adjustments are made (i.e., an efficiency reward of 0.31 compared to an efficiency reward of 0.59 if the re-prioritised project is treated as an advancement, 0.88 if the reprioritised project is treated as a one-off project and 0.88 if there is no reprioritisation). However, the difference is trivial and unlikely to form a material barrier to sensible project reprioritisation.

74. This supports the conclusion that an adjustment is not warranted in this case where a capital deferral has been offset by an equal and opposite advancement in the course of efficient reprioritisation of the capital program.