Application of symmetric IRIS

A REPORT PREPARED FOR TRANSPOWER

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Frontier Economics has prepared this report for Transpower regarding the implications of the application of a 'symmetric' IRIS mechanism to Transpower, which the Commission has determined would apply from the start of Transpower's second regulatory control period (2015-2020).

In the absence of an IRIS-type mechanism, network businesses tend to have more powerful incentives to make changes that will generate opex savings early in a RCP than later in the period. When used in combination with a base year opex forecasting approach, a standard symmetric IRIS equalises the network business's incentives to make opex savings across all years of a RCP and provides an equitable sharing of savings between the business and its customers.

A key feature of a symmetric IRIS combined with a base year opex forecasting approach is that there is no need for the regulator to audit the permanence or otherwise of any cost savings made. This provides the business with the necessary confidence that any 'investments' it makes by incurring short-term operating or, indeed, capital expenditures to secure future opex savings will be shared predictably over time. This encourages businesses to identify and make such investments, to the ultimate benefit of end-use consumers, who enjoy the largest benefits by aggregate share. Such incentives and outcomes are consistent with the purpose of Part 4 of the *Commerce Act* 1986.

However, in the present case, the Commission has adopted a 'bottom up' approach to forecasting allowable opex. This means that to the extent the Commission believes that a business's actual opex in the current RCP is not reflective of its efficient future opex because actual opex is being artificially depressed due to temporary savings, the Commission will ignore those temporary factors in making its forecast. Accordingly, the Commission has modified the symmetric IRIS applying to Transpower in an effort to remove carryover benefits in respect of perceived temporary opex savings.

However, this modification introduces a high degree of uncertainty into the equation Transpower faces in deciding whether to pursue efficiencies that require up-front opex or capex to be incurred. This is because any savings classed by the Commission as temporary will reduces Transpower's revenue in the second year of its subsequent RCP by approximately 5.44 times the value of the adjudged temporary penultimate year savings.

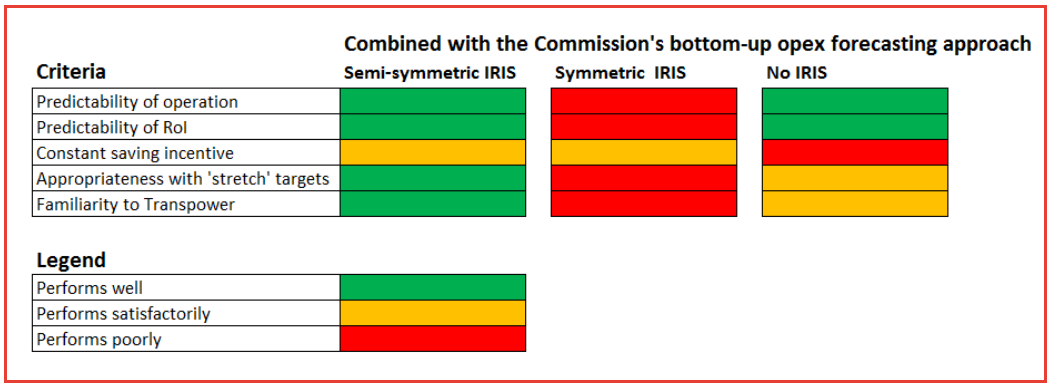
It is difficult to see how the Commission could make its assessment of the durability of savings accurately and predictably. To the extent that Transpower cannot rely on the Commission to make its assessments of the durability of opex savings accurately and predictably, Transpower will need to allow for the very real prospect that any savings it makes below its forecast opex could be inappropriately classed as temporary, resulting in a reduction in its allowed opex.

Transpower has no benign means of insuring or hedging itself against incorrect or adverse outcomes, other than by not pursuing any such potential savings to begin with. This would undermine the objectives of the IRIS mechanism and indeed of the entire basis of an incentive-based regulatory regime.

In summary, our assessment of the relative merits of the options available to the Commission for RCP2 is as follows:

- When used in conjunction with base year approach to setting opex allowances, a symmetric IRIS will provide a positive and constant incentive to improve efficiency and will effect an equitable sharing of those efficiencies with consumers.
- When used in conjunction with a bottom-up approach to setting opex as currently applied by the Commission to Transpower, a symmetric IRIS loses these positive features and can encourage perverse behaviours
- Under these conditions, overall welfare and the interests of consumers would be best promoted by retaining the RCP1 semi-symmetric IRIS. If this is not feasible, the application of no IRIS mechanism would be preferable to the application of the Commission's modified symmetric IRIS (see below).

Figure 1 Assessment of the options against key criteria



*Source: Frontier Economics *NB – A standard (unmodified) symmetric IRIS would perform much better (green) on the first three criteria if combined with a simple base year opex forecasting approach.*

1 Introduction

Frontier Economics has prepared this report for Transpower in response to the Commerce Commission's consultation on its intended operation of a 'symmetric' incremental rolling incentive scheme (IRIS) mechanism for electricity distribution businesses (EDBs). This is also relevant to the operation of the symmetric IRIS mechanism for Transpower which the Commission determined in November 2014 would apply from the start of its second regulatory control period (RCP2, spanning 2015-2020).

In general, the IRIS mechanism seeks to provide Transpower with a continuous incentive to make operating expenditure (opex) savings throughout the term of a RCP. A symmetric IRIS refers to Transpower facing equal-strength rewards and penalties for under- and over-spending its opex allowance, respectively. Transpower's current IRIS can be described as 'semi-symmetric', in that it:

- Rewards Transpower for under-spending its opex allowance and
- Reduces those rewards if cost savings are not sustained,
- But does not *additionally* punish Transpower for over-spending its allowance in gross terms, beyond the initially substantial but declining within-period losses accruing 'naturally' under the IPP form of regulation.

We consider that the implementation of the Commission's modified symmetric IRIS combined with its current methodology for setting Transpower's opex allowance is likely to lead to inefficient outcomes that are not in the ultimate interests of end-use consumers. Under these circumstances, the existing semi-symmetric scheme (or even no IRIS at all) would be preferable to the Commission's approach.

1.1 About the rest of this report

This report is structured as follows:

- Section 2 explains the role of IRIS-type mechanisms in general with the aid of stylised examples.
- Section 3 describes the operation of IRIS mechanisms in light of the Commission's approach to setting opex allowances using a bottom-up methodology.
- Section 4 discusses the options open to the Commission to overcome or minimise the perverse incentives arising from the application of a symmetric IRIS to Transpower.

2 Role of an IRIS

2.1 Background – IPP form of regulation

The role of an IRIS-type mechanism arises from the form of economic regulation applying to a network business. The form of economic regulation applying to Transpower through its individual price-quality path (IPP) can broadly be described as 'building block incentive-based' regulation:

- **Building block** – means that the amount of revenue that Transpower is allowed to earn from the provision of regulated services is determined by adding up estimates of the various cost components the business needs to incur to provide those services efficiently. The purpose of the building block approach is to ensure that a business can earn what it needs to provide regulated services, and no more. Generally, building block regulation is applied over a fixed RCP, which is currently five years for Transpower. The amount of revenue that Transpower can earn over an RCP is based on the Commission's forecast of efficient costs the business would incur over this period.
- **Incentive-based** – means that the amount of regulated revenue that Transpower is allowed to earn from regulated services over a RCP is fixed in advance. If Transpower can reduce its costs below the costs included in its IPP allowance, it can 'keep the difference' for a period of time. Conversely, if Transpower incurs higher costs than its allowance, it will bear the cost of the difference for a period of time. This is designed to encourage Transpower to minimise its costs while continuing to meet or exceed its reliability or performance targets.

At the end of every RCP, Transpower's building block allowance is reset for the next RCP. The new allowance should take into account any efficient cost overruns or savings Transpower made over the previous RCP. In this way, the benefits of cost savings (or the losses of cost overruns) made by Transpower in response to the incentives it faces are gradually passed-on to customers through lower (or higher) regulated revenues and prices. This attribute is known as 'benefit-sharing'.

2.2 Problem that IRIS addresses

Under a simple form of building block incentive regulation – which lacks an IRIS-type mechanism – network businesses will tend to have more powerful incentives to make changes that will generate opex savings early in a RCP than later in the period. The Commission refers to this as the 'natural' incentive to

minimise costs within IPP.[1] The 'power' of an incentive in this context refers to the proportion of the NPV of savings (or overruns) the business is able to retain (or bears).

Consider the following stylised example. A business has the opportunity to make a $10 permanent opex saving in the course of its five year RCP. Further assume that any savings made within a RCP are reflected in the following period's building block allowance. If the real discount rate is 6%, the business will be able to retain approximately:

- 25.3% of the NPV saving ($44.65 of $176.67) if the saving is made in the first year of a RCP
- 20.8% of the NPV saving ($36.73 of $176.67) if the saving is made in the second year of a RCP
- 16.0% of the NPV saving ($28.33 of $176.67) if the saving is made in the third year of a RCP
- 11.0% of the NPV saving ($19.43 of $176.67) if the saving is made in the fourth year of a RCP
- 5.7% of the NPV saving ($10 of $176.67) if the saving is made in the final year of a RCP

The declining power of incentives under a simple form of building block incentive regulation can encourage network businesses to engage in perverse and inefficient behaviours. In particular, businesses can find it worthwhile to defer making savings available towards the end of a RCP to the start of the following RCP. Further, if the regulator uses a 'base year approach' to setting the business's opex allowance for the next RCP – in which forecast opex for the succeeding RCP is set based on the actual opex in a specific 'base' year in the current RCP (typically the penultimate year) – the business can have an incentive to bring opex forward from the final year(s) of the RCP into the base year to boost its opex allowance at relatively little cost in terms of the present value of the brought-forward expenditure.

A properly-designed IRIS mechanism can overcome the perverse incentives a network business would otherwise face under a simple regulatory regime. This is explained in the next sub-section.

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1 Commerce Commission, *Amendments to input methodologies for electricity distribution businesses and Transpower New Zealand, Incremental Rolling Incentive Scheme*, 27 November 2014 (Commission's Final reasons paper), para 1.8, p.2.

2.3 Operation of a standard IRIS-type mechanism

A standard symmetric IRIS mechanism seeks to equalise the network business's incentives to make opex savings across all years of a RCP. It does this by effectively providing the business with the same number of years' rewards or penalties for under- or over-spending its opex allowance, respectively. For example, the efficiency-benefit sharing scheme (EBSS) operating in the Australian National Electricity Market (NEM) provides network businesses with six years of rewards or penalties, including the year in which the under- or over-spend first occurred.[2] With a 6% real discount rate, and accompanied by a base year opex forecasting approach, this results in a benefit-sharing ratio between businesses and consumers of approximately 30:70.

Error! Reference source not found. illustrates an example in which the network business makes a permanent saving of $20 in the penultimate year of its first RCP (RCP1). This saving is reflected in its forecast opex for the second RCP (RCP2). However, the EBSS augments the business's opex allowance in the first four years the second RCP through a carryover benefit. The NPV of the saving, assuming a 6% real discount rate is approximately $353 and the NPV of the business's share is approximately $104.25, which is nearly 30% of the total value of the saving.

Figure 2 EBSS operation - permanent cost saving

	RCP1					RCP2				
Year	1	2	3	4	5	6	7	8	9	10
Forecast opex	100	100	100	100	100	80	80	80	80	80
Historical opex	100	100	100	80	80					
Efficiency carryover benefit	-	-	-	-	-	20	20	20	20	-
Total allowance						100	100	100	100	80

Source: Frontier Economics

Error! Reference source not found. shows how the EBSS ensures the network business receives the same (30%) share of the NPV benefits of a temporary cost saving. The business gains $20 in year 4 and loses $20 in year 10, providing it

[2] See Australian Energy Regulator, *Better Regulation, Explanatory Statement Efficiency Benefit Sharing Scheme for Electricity Network Service Providers*, November 2013.

with a NPV benefit (as at year 4) of $5.90 out of a total NPV gain (as at year 4) of $20.

Figure 3 EBSS operation - temporary opex saving

	RCP1					RCP2				
Year	1	2	3	4	5	6	7	8	9	10
Forecast opex	100	100	100	100	100	80	80	80	80	80
Historical opex	100	100	100	80	100					
Efficiency carryover benefit	-	-	-	-	-	20	20	20	20	-
Total allowance						100	100	100	100	80

Source: Frontier Economics

Similarly, **Error! Reference source not found.** shows how the EBSS offsets any incentive the network business has to shift opex within a RCP in order to secure a higher forecast allowance for the next RCP. By deferring opex from year 3 to year 4, the business increases its opex allowance for RCP 2, but incurs a negative carryover benefit such that its NPV benefit ($0.33) is only 30% of the value of that one-year expenditure deferral ($1.13).

Figure 4 EBSS operation - cost shifting

	RCP1					RCP2				
Year	1	2	3	4	5	6	7	8	9	10
Forecast opex	100	100	100	100	100	120	120	120	120	120
Historical opex	100	100	80	120	100					
Efficiency carryover benefit	-	-	-	-	-	-20	-20	-20	-40	-
Total allowance						100	100	100	80	120

Source: Frontier Economics

The above stylised examples demonstrate that IRIS-type schemes, when used in combination with a base year opex forecasting approach both:

- Provide network business with a constant incentive throughout a RCP to make opex savings of any nature (including expenditure deferrals) and
- Result in an equitable sharing of the welfare gains arising from permanent or temporary opex reductions between the business and its customers.

The combination of these two features provides salutary incentives for network businesses. It is typically the case that businesses need to incur short-term costs (via increased opex or capex) to secure higher-present value savings in the long term. A symmetric IRIS combined with a reasonably mechanical base year forecasting approach provides a business with confidence that any such 'investments' it makes in securing future savings will be shared predictably over time. This encourages the making of such investments, to the ultimate benefit of end-use consumers, who enjoy the largest benefits by aggregate share.

In particular, a key feature of a symmetric IRIS combined with a base year opex forecasting approach is that there is no need for the regulator to audit the permanence or otherwise of any cost savings made. Whether a saving persists for one, two, three or more years is automatically reflected in the rewards the business enjoys – the business will keep the same share of NPV benefits irrespective of the ultimate duration or size of the saving. Conversely, if an IRIS required the regulator to make an assessment as to whether savings observed relatively recently were likely to be permanent or temporary – and if temporary, their precise duration – the mechanism would become far less effective in providing constant efficiency incentives. This is particularly the case where the characterisation by the regulator of any savings made by the business is a subject of the regulator's discretion and informed by a public consultation process. Under these circumstances, the regulated business could not have the same confidence that any investment it made via higher opex or capex in the short term to secure a larger present value opex saving in the long term would be worthwhile. To the extent this occurred, it would undermine the objectives of the IRIS mechanism and indeed of the entire basis of an incentive-based regulatory regime.

3 Operation of IRIS with the Commission's opex forecasting approach

As noted above, IRIS-type schemes provide desirable cost-saving incentives for network businesses when used in combination with a fairly mechanical base year forecasting approach.[3] However, where (as in the present case) the regulator adopts a 'bottom up' or less mechanical approach to setting allowed opex, the appropriate design of an IRIS scheme may change. It may in some cases be better to not apply an IRIS at all if the only alternative is to apply a standard symmetric IRIS.

3.1 Commission's opex forecasting approach

In its explanation for its amendments to inputs methodologies applying to Transpower and the distribution businesses, the Commission noted:[4]

> ...when setting an individual or customised price-quality path, the forecast of operating expenditure is based on a detailed review of future expenditure requirements, so there is not a direct link with actual expenditure in a base year.

This makes it clear that the Commission has not applied anything resembling a 'fairly mechanical' base year opex forecasting approach.

3.2 Commission's symmetric IRIS

While the Commission's new IRIS for Transpower is symmetric, it operates much less mechanically than how a standard IRIS-type mechanism operates when used in conjunction with a base year forecasting approach. As noted in section 2.3 above, a standard IRIS-type mechanism requires no modification or decision to be made by the regulator to provide the business with a constant strength of incentive to make savings throughout a RCP. This provides the necessary confidence to businesses that the short-term expenditures they incur to secure future savings will be shared predictably over time. This, in turn, encourages businesses to identify and make such investments, to the ultimate benefit of end-use consumers. Such incentives and outcomes are consistent with the purpose of Part 4 of the *Commerce Act* 1986:

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3 One way to maintain the salutary incentives of an IRIS-type mechanism combined with a base year forecasting approach where one-off expenditures are considered to bias penultimate year opex is to adopt a different year. For example, section 2.2.2 of the AER's Explanatory Statement for its EBSS notes that: "Where the base year is not reflective of ongoing costs we can choose another, more reflective base year, if one is available. In the event one-off factors do impact expenditure in the proposed base year, this would be our preferred approach".

4 Commission's Final reasons paper, para 5.6, p.19.

> (1) The purpose of this Part is to promote the long-term benefit of consumers in markets referred to in section 52 by promoting outcomes that are consistent with outcomes produced in competitive markets such that suppliers of regulated goods or services:
>
> ...
>
> (b) have incentives to improve efficiency and provide services at a quality that reflects consumer demands; and
>
> (c) share with consumers the benefits of efficiency gains in the supply of the regulated goods or services, including through lower prices; and

In its original justification for the EBSS, the AER said:[5]

> The AER acknowledges the concerns raised by some stakeholders that applying negative carryovers but not basing forecasts on the base year could burden DNSPs with an unfair proportion of efficiency losses. The AER recognises that for the EBSS to provide DNSPs with a constant share of gains and losses, forecasts in the following regulatory control period must align with actual opex in the forecast base year, subject to adjustments for changes in scale and scope.
>
> For these reasons the AER considers it is appropriate that adjustments be made *only for demonstrable changes in scale or scope* when forecasting opex from the actual opex in the base year. The AER considers this, combined with carryover amounts, provides DNSPs with a reasonable estimate of forecast opex and a fair sharing of any efficiency gains. [Emphasis added]

However, the Commission's approach to forecasting opex means that its symmetric IRIS has needed to be modified to provide – even in principle – a constant incentive rate for savings. In practice, we consider that the application of the modified IRIS will give rise to perverse and inefficient incentives that work against the long-term interests of consumers. This issue is discussed in more detail in section 3.2.2 below.

3.2.1 Modifications to IRIS

A standard IRIS needs to make no judgment on the permanency of cost savings obtained by a business in any year of a RCP. However, because of the current bottom-up approach to forecasting opex, the Commission needs to make an assessment of the level of efficient opex in the next RCP, irrespective of the current actual level of opex. To the extent the Commission believes that a business's actual opex in the current RCP is not reflective of its efficient future opex because actual opex is being artificially depressed (or raised) due to temporary savings (or expenses), the Commission will need to ignore those temporary factors in making its forecast.

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5 AER, *Final Decision, Electricity distribution network service providers, Efficiency benefit sharing scheme*, June 2008, p.13.

Accordingly, the Commission has modified the symmetric IRIS applying to Transpower in an effort to remove carryover benefits in respect of temporary opex savings. Savings made in years 1 to 3 of RCP1 appear to be treated as temporary or permanent based on outturn opex in the following years via the mechanism of carry forward amounts. This is how a standard IRIS (like the AER's EBSS) operates.

However, the break-up of penultimate year (year 4) savings between temporary and permanent is not based on outturn opex. The break-up requires the Commission to examine actual opex over years 1 to 4 and make an ex post assessment of how much of any year 4 opex savings is permanent and how much is temporary. Importantly, there is no scope for nuanced assessments in the ex post review – a saving must be classed as either lasting one year or else as lasting indefinitely. Conversely, as noted above, a standard IRIS-type mechanism automatically and appropriately caters for savings of any duration.

The Commission's assessment of the permanence of penultimate year opex savings will drive:

- The extent to which Transpower will be allowed to retain benefits from under-spending (and the costs of over-spending) in the penultimate year
- The break-up between temporary and permanent opex savings in the final year of the RCP (and implicitly thereafter).

3.2.2 Drawbacks of IRIS modifications

The key drawback of the Commission's ex post assessment of penultimate year opex savings (or overruns) is that it introduces a high degree of uncertainty into the equation Transpower faces in deciding whether to pursue efficiencies that require up-front operating or capital expenditures to be incurred. As noted above, a symmetric IRIS combined with a reasonably mechanical base year forecasting approach provides the business with confidence that any opex or capex investments it makes in future savings will be predictably shared as between the business and consumers over time. However, the IRIS modification provides for the Commission to determine what proportion of Transpower's savings will be classed as one-off versus permanent. It is difficult to see how the Commission could make this assessment accurately and predictably. Much will depend on the Commission's subjective judgements, informed – or perhaps influenced – by consultation with other stakeholders.

To the extent that Transpower cannot rely on the Commission to make its assessments of the durability of opex savings accurately and predictably, Transpower will be confronted with perverse signals. This is because Transpower will need to allow for the very real prospect that any savings it makes below its forecast opex could be inappropriately classed as temporary by the Commission in its ex post assessment. The modified IRIS will reduce Transpower's carryover

Operation of IRIS with the Commission's opex forecasting approach

benefits in respect of any such classed temporary savings through the baseline adjustment term. This term reduces Transpower's revenue in the second year of its subsequent RCP by approximately 5.44 times the value of the adjudged temporary penultimate year savings. This gives rise to significant downside risk for Transpower in making short-term investments in long-run cost savings. Transpower has no benign means of insuring or hedging itself against incorrect or adverse outcomes other than by not pursuing any such potential savings in the first place.

As a consequence:

- In respect of investments that have very predictable and immediate 'payoffs' in terms of securing efficiencies, Transpower would have incentives to defer such investments if they were likely to yield benefits in the penultimate year of an RCP. This would be inefficient and to the long term detriment of consumers.
- In respect of more typical types of investments in efficiencies, which have multi-year, lagged and/or uncertain-timed payoffs (eg renegotiations of input contracts), Transpower could be deterred from making such investments altogether. This would likewise be contrary to consumers' long term interests.
- Transpower could even have incentives to shift costs from its penultimate year to its final year (ie make temporary savings) in an effort to have some of those temporary savings classed as permanent savings. If this occurred, it would also be contrary to consumers' interests.

These problems arise in part because there is no clear or necessary link between the Commission's assessment of penultimate year opex savings or overruns and its forecast opex for the next RCP. This lack of necessary link gives Transpower strong incentives to represent any and all penultimate year savings as permanent but to preserve – or avoid making – any real potential permanent savings until a time it can be more confident that those permanent savings will be recognised and rewarded as such.

3.3 Recent proposed changes to IRIS

The Commission has recently proposed further changes to the IRIS for customised price-quality path regulation that seek to clarify how it will distinguish between temporary and permanent efficiency gains in the penultimate year of a RCP.[6] The Commission's approach is based on the assumption that the

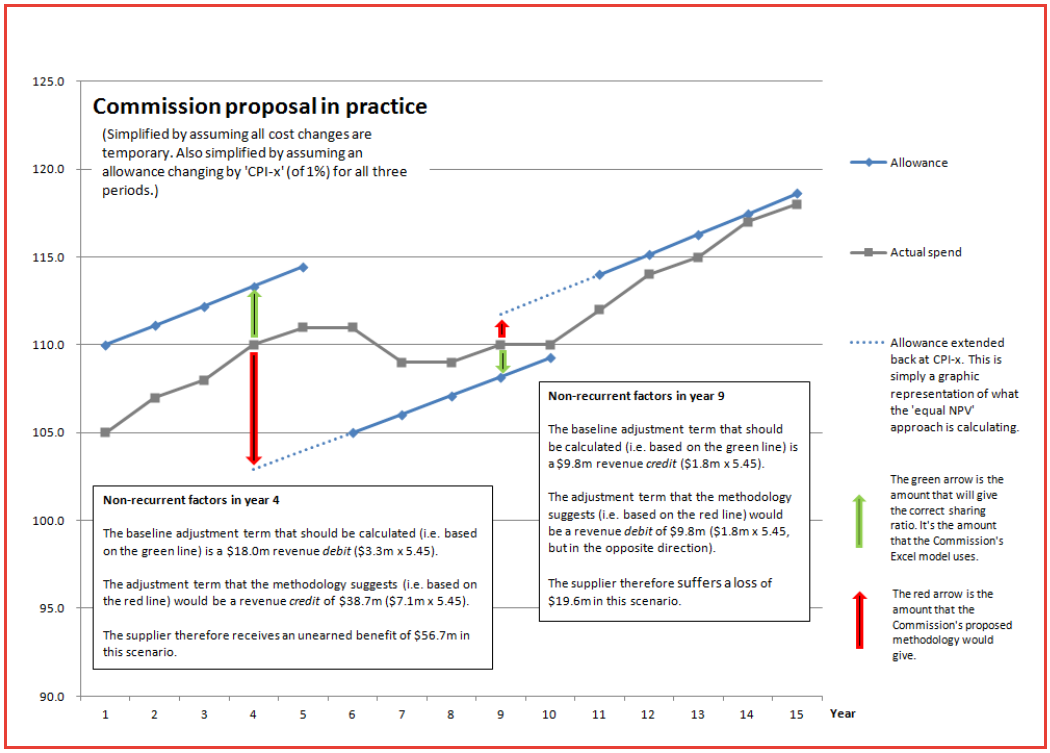
[6] Commerce Commission, *How we propose to implement further amendments to the input methodologies for electricity distributors subject to price-quality regulation, Incremental Rolling Incentive Scheme*, 27 February 2015, section 3, pp.8-10.

difference between the NPV of forecast opex using a base year approach and using a bottom-up approach arises solely as:[7]

> ...the result of a distortion introduced by any non-recurrent differences between forecast and actual expenditure in the penultimate year of the preceding regulatory period.

However, this view is not correct, as demonstrated by Transpower's modelling (see **Error! Reference source not found.** below).

Figure 5 Commission's proposal in practice



Source: Transpower

As a result, the Commission will have no alternative but to conduct detailed, laborious and – from Transpower's perspective – unpredictable ex post reviews of opex. This would be contrary to the requirements for good regulatory practice. For example, in their paper entitled "Certainty and Discretion in New Zealand Regulation", Kalderimis et al note that:[8]

> By certainty we simply mean ex ante predictability as to how a given regulation will be applied and enforced by regulatory agencies.

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7 *Ibid.*, para 3.11, p.9.

8 Kalderimis, D., C.Nixon and T.Smith, "Certainty and Discretion in New Zealand Regulation", Cross-cutting theme paper prepared for the NZ Law Foundation Regulatory Reform Project, 2013, p.1, available at: http://www.regulatorytoolkit.ac.nz/resources/papers/book-3/chapter-4-certainty-and-discretion-in-new-zealand-regulation (accessed 20 March 2015).

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> ...
>
> Certainty is desirable from an economic perspective since it has a central role in promoting efficient economic activity – i.e. low cost economically inventive behaviour. The more certain property rights, the domain of legal activities and the more predictable the actions of institutions, the more confidence business has to invest. And, perhaps more importantly, the more 'room' there is to develop innovative ways of doing things better

In advising the Commission on asset valuation methodologies, Professor George Yarrow et al commented that:[9]

> I share the view of the authors of the Synergies report (for Vector) that one of the most important aspects of good regulatory practice is predictability (sometimes referenced in terms of regulatory uncertainty or consistency).
>
> ...
>
> What is required is what, in work for the UK government, I have called conditional predictability in relation to things that really matter. Regulators need to be able to adjust and adapt when the economic environment changes, but should change and adapt in ways that are predictable to market participants conditional on available information about the changes in the economic environment to which the regulator is responding. That is, *it should be possible to predict how a regulator will react to changing circumstances*...
>
> ...
>
> It is right that companies are vigilant in seeking to hold regulators to commitments that matter; *most obviously in circumstances where the effect would be to preclude recovery of efficiently incurred past investments*, including a rate of return on capital equal to the cost of capital. [Emphasis added]

Similarly, former member of the AER, Geoff Swier, described the principles of best practice utility regulation as including:[10]

> Predictability – Reputation that facilitates planning by suppliers and customers

The result of not paying heed to these principles is likely to be harmful to the long term interests of consumers and contrary to the purposes of Part 4 of the Commerce Act.

3.4 'Stretch' targets

Even if it were possible for the Commission to transparently, accurately and predictably distinguish between 'temporary' and 'permanent' opex savings made

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9 Yarrow, G., M.Cave, M.Politt and J.Small, *Review of Submissions on Asset Valuation in Workably Competitive Markets, A report to the New Zealand Commerce Commission*, November 2010, Paras 2.5-2.9.

10 Swier, G., *The Australian Energy Regulator and Best Practice Regulation*, April 6, 2006, available at: http://www.aer.gov.au/sites/default/files/as00206-Swier%20-%20060406%20-%20ACORE%20seminar%20series%20-%20speech.pdf (accessed 19 March 2015).

by Transpower, the Commission's symmetric IRIS would not be appropriate if it set 'stretch' targets for Transpower's allowed opex. To the extent the Commission develops its opex forecasts for Transpower on the basis of presumed productivity gains beyond those demonstrated by its actual opex, supporting these with a symmetric IRIS could implicitly allocate a larger share of future efficiency gains to consumers and a smaller share to Transpower than the accepted 66:34 ratio.

For example, we note that in its recent IPP decision for Transpower in RCP2, the Commission set stretch targets for ICT opex. The Commission decided, on advice from its consultants, Strata, that Transpower's ICT costs could and should be reduced by $4.8 million to reflect potential future savings:[11]

> Transpower has provided little evidence to indicate that operational efficiencies are being aggressively pursued and there appears to be opportunities to materially reduce costs from already implemented improvements. We agree with Strata's recommendation for a downward adjustment of 2% to be applied to ICT opex

This does not mean top-down adjustments are never appropriate but it does require that any flow on impacts to incentive mechanisms are understood and isolated. For example, in its recent draft determinations on the New South Wales electricity distributors,[12] the AER decided to suspend the operation of the EBSS to the distributors because it had set opex targets for the businesses that incorporated top-down efficiencies. The AER said:[13]

> We have made this decision because of our forecasting approach to opex and the likely incentives Ausgrid already faces to improve its efficiency.

11 Commerce Commission, *Setting Transpower's individual price-quality path for 2015-2020* [2014] NZCC 23, 29 August 2014, paras. 5.128-5.129.

12 See, for example, AER, *Draft decision, Ausgrid distribution determination 2015/16 – 2018/19, Overview*, November 2014, section 9.1.2, p.65.

13 *Ibid.*

Operation of IRIS with the Commission's opex forecasting approach

4 Implications for IPP regulation

In light of the perverse incentives and behaviours likely to follow from the application of a symmetric IRIS to Transpower in conjunction with a bottom-up approach to setting opex allowances, the question for the Commission is what regulatory options are available to avoid or minimise these effects, both in the immediate term and going forward in RCP3 and beyond.

In the longer term, a simple and clean option could be adoption of a base year approach to forecasting Transpower's opex. A simple base year approach combined with a symmetric IRIS should produce unbiased and constant incentives for Transpower to minimise its opex in each year of its RCPs. Moreover, these incentives will apply mechanistically, so Transpower will confidently be able to predict the value of benefits it could accrue from taking efficiency-enhancing actions. However, this option could not overcome the perverse incentives faced by Transpower in RCP2 because the Commission cannot at this stage – ie prior to even the commencement of RCP2 – meaningfully and credibly bind itself to adopting a base year approach to setting opex allowances for RCP3.

In the shorter term (for RCP2), the most practicable means open to the Commission of avoiding the harmful effects of a symmetric IRIS is to revert to Transpower's RCP1 'semi-symmetric' IRIS.

The semi-symmetric IRIS:

- Rewards Transpower for under-spending its opex forecast across a RCP
- Punishes Transpower for higher opex in any year within a RCP in which it makes overall savings against the Commission's opex forecast for that RCP
- But does not punish Transpower for over-spending its opex allowance in gross terms across a RCP.

This does not mean that Transpower faces *no* incentive not to over-spend its forecast opex allowance under the semi-symmetric IRIS. Transpower will still face a 'natural' penalty for over-spending, particularly in the earlier years of a RCP.

The semi-symmetric IRIS can lead to excessive incentives to reduce opex in the final year of a RCP, because the incentive power of the mechanism is very high in that year (and can be in excess of 100%) because savings in that year are presumed to be permanent. However, if such behaviour occurred, it would likely result in changes to the opex forecasting and incentive framework for RCP3 and Transpower would be aware of this.

The semi-symmetric IRIS does have a number of additional features in its favour. The first is that operates mechanically rather than being judgement-based. This mechanical and predictable operation is enormously important for incentivising

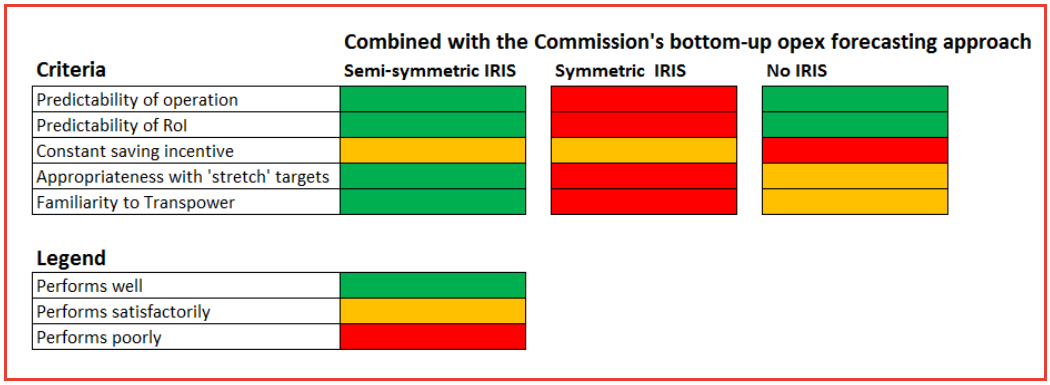
Transpower to undertake costly investments in future efficiencies. A second advantage is that the semi-symmetric IRIS is already in place and is operating effectively to reduce Transpower's costs. Given that no IRIS can work perfectly when used in combination with a bottom-up forecasting approach, participants' familiarity with the existing approach stands in its favour.

Finally, we note that a symmetric IRIS would definitely not be appropriate if Transpower's opex allowance is set as a 'stretch' target.

Therefore, in our view:

- The preferable long-term resolution to the issues identified in this report is for the Commission to review its methodology for developing Transpower's opex forecasts.
- In the shorter term, our assessment of the relative merits of the options available to the Commission for RCP2 is as follows:
  - When used in conjunction with base year approach to setting opex allowances, a symmetric IRIS will provide a positive and constant incentive to improve efficiency and will effect an equitable sharing of those efficiencies with consumers.
  - When used in conjunction with a bottom-up approach to setting opex as currently applied by the Commission to Transpower, a symmetric IRIS loses these positive features and can encourage perverse behaviours
  - Under these conditions, overall welfare and the interests of consumers would be best promoted by retaining the RCP1 semi-symmetric IRIS. If this is not feasible, the application of no IRIS mechanism would be preferable to the application of the Commission's modified symmetric IRIS (see below).

Figure 6: Assessment of the options against key criteria



*Source: Frontier Economics *NB – A standard (unmodified) symmetric IRIS would perform much better (green) on the first three criteria if combined with a simple base year opex forecasting approach.*

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FRONTIER ECONOMICS | MELBOURNE | SYDNEY | BRISBANE
Frontier Economics Pty Ltd 395 Collins Street Melbourne Victoria 3000
Tel: +61 (0)3 9620 4488 Fax: +61 (0)3 9620 4499 www.frontier-economics.com
ACN: 087 553 124 ABN: 13 087 553 124