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John McLaren  
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Dear John

## Incremental Rolling Incentive Scheme

Thank you for the opportunity to comment on the Commission's consultation *How we propose to implement further amendments to input methodologies for electricity distributors subject to price-quality regulation* published 27<sup>th</sup> February 2015.

### Introduction and summary

Late last year, the Commission decided to alter the opex efficiency rules (IRIS) that apply to Transpower's "individual" price-path (IPP) from a semi-symmetric design to a fully-symmetric design. We have been concerned that the fully-symmetric IRIS does not work with IPP regulation, in particular:

- under current opex reset conditions there is no reliable or predictable method for determining IRIS credits (or debits), which means suppliers cannot confidently assess the expected return on efficiency investments. This undermines the policy intent of IRIS, which is to strengthen incentives to make efficiency improvements<sup>1</sup>
- there is a risk that the mechanism will produce a materially adverse outcome that prevents us being able to recover efficient costs over time. This undermines a basic tenet of price-quality path regulation, which is that suppliers should be able to have an expectation that they can recover efficient costs, and
- trying to mitigate the latter problem may draw the Commission into an impossibly difficult and unproductive forensic analysis of our opex outturn over RCP2 in an attempt to discern whether movements are due to temporary, recurring or permanent efficiency gains or losses.

The Commission's current consultation addresses how it proposes to assess opex efficiency (IRIS) credits for electricity distributors (EDBs) transitioning from "default" to "customised" price-paths. EDBs also have fully-symmetric IRIS arrangements and the one-off transition from a default to customised price-path presents the same methodological problem as we have identified with our IPP IRIS arrangements. This is because setting a customised price-path involves the same kind of

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<sup>1</sup> The current IRIS arrangements for RCP2 weaken the ability of IPP regulation to promote three of the four purposes of Part 4 of the Commerce Act – 52A(1)(a) incentives to invest; 52A(1)(b) incentives to improve efficiency; and 52A(1)(c) sharing benefits of gains with consumers. The arrangements have no particular impact on the fourth objective – 52A (1) (d) limit ability to extract excessive profits.

detailed, bottom-up assessment of opex requirements as is involved in setting an IPP (and in contrast to the 'base and trend' approach used for setting a default price-path).

Given the above, we are submitting on this consultation because it sheds light on the Commission's most recent thoughts on how it could determine IRIS credits for our next control period (RCP3, the four or five year period from 2020/21<sup>2</sup>). We approached this consultation with optimism that the Commission may have found a workable solution. Unfortunately, we have identified mathematical problems with the proposed methodology and this reinforces all three of the concerns identified above.

This leaves us and the Commission with the problem of what to do about IRIS arrangements that, it appears, cannot achieve their intended objective and are likely to harm the overall operation of IPP regulation. To assist with this dilemma, we commissioned Frontier Economics to test our thinking and to assess the options available to the Commission.

In our words, we think the Commission has the following options available to it.

1. Revert to semi-symmetric IRIS arrangements. This is our preferred option. The existing (RCP1) IRIS arrangements are semi-symmetric – that is, incentive strength for marginal opex is constant when overall opex outturn for the year is below the approved allowance for the year (i.e. losses and gains in efficiency are treated symmetrically). If overall outturn is above the allowance for the year then there is 100% non-recovery of marginal opex. In our view, this arrangement is not problematic and functions as intended. The Commission may be concerned that the RCP1 IRIS arrangements provide an enhanced incentive for savings in the final year of a control period. In our view it is debatable as to whether this is problematic (a very strong incentive is more desirable than a diminished incentive and is likely to assist a supplier to press for new efficiencies) and, if there is a clear view that it is undesirable then there may be fixes available for this specific problem.<sup>3</sup>
2. Alter opex reset arrangements. Whether or not symmetric IRIS arrangements present a problem depends on how opex allowances are set. It follows that the dilemma could potentially be resolved by altering the opex reset arrangements for IPP regulation. We do not have a clear view at this stage as to whether this is a good option, and we think that coming to a sound conclusion would take some time. Given this, it would be undesirable to leave flawed IRIS arrangements in place while opex reset arrangements are reviewed (due to the ongoing detrimental impact on incentives).
3. Remove IRIS arrangements. This is not our preferred option. IRIS arrangements were put in place to ensure that opex efficiency incentives are not diminished as a supplier reaches the end of a control period. This is an important objective that can be satisfactorily met through reinstatement of the semi-symmetric RCP1 IRIS arrangements.

In this submission we make the following points.

1. We support the Commission's package of efficiency and quality incentives for Transpower: these are central to meeting the purpose of Part 4 (and are worth taking the time to get right).

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<sup>2</sup> For EDBs, transition is a one-off problem. In contrast, flaws in IRIS arrangements have an enduring impact on incentives under IPP regulation. This heightens the impact that IRIS arrangements can have on the overall success of IPP regulation over time.

<sup>3</sup> We would be happy to share our thinking with the Commission on potential fixes.

2. In 2014 we identified mathematical problems with the IPP IRIS: we are now convinced that a constant sharing ratio is not mathematically achievable under current opex reset conditions.
3. Persevering with a symmetric IRIS for Transpower for RCP2 undermines successful operation of IPP regulation and will not be in the long term interests of consumers.
4. We recommend that the Commission re-examines IRIS for IPP firms as part of the pending IM reviews and in conjunction with considering IPP opex reset policy. In the interim, we recommend the Commission revert to semi-symmetric IRIS arrangements for the RCP2 period (potentially with modifications to address the final year issue).

The remainder of this submission develops these points. Frontier's report is included as Appendix 1 and Appendix 2 contains supporting analysis that we have submitted as two Excel workbooks.

## 1. Transpower supports the Commission's work on incentive regulation

The success of the Part 4 regime depends in no small part on the introduction and application of effective incentives to improve efficiency. As alluded to above, these incentives impact on each aspect of the section 52A purpose statement and are directly referenced in sub sections (b) and (c). We recognise this and, consequently, have consistently supported the Commission's efforts to develop an effective incentive regulation model.

As well as several years' experience with IRIS we recently invested considerable effort in developing revenue linked grid output measures that provide economic incentives for Transpower to preserve and improve quality and to balance any incentive that might exist for excessive (inefficient) cost cutting. Notwithstanding the concerns expressed in this submission the combination of efficiency and quality incentives arrived at by the Commission for RCP2 are, in our view, well balanced.

We continue to support the policy objective and are very focussed on ensuring the 'mechanics' of implementation deliver on that objective. Our reservations about the implementation, specifically in relation to the application of a symmetric IRIS in conjunction with a bottom up opex reset, should be read in that context. Unfortunately these reservations are not trivial.

## 2. The suggested methodology does not, and cannot, produce a consistent sharing ratio

In our August 2014 submission on IRIS we identified deficiencies in the IRIS design that would need to be addressed before the 'symmetric IRIS' could be implemented for RCP2. Our understanding is that the Commission recognised these deficiencies but was unable to resolve them before its November 2014 IPP decision.<sup>4</sup>

We appreciate the constructive approach taken by the Commission in engaging on this issue and in seeking to address our concerns. We have carefully considered the approach suggested by the Commission in the current IRIS consultation. Unfortunately, when tested, the suggested methodology does not achieve the sought after consistent sharing ratio. Moreover, the conclusion we and Frontier have arrived at is that, under current IPP (or CPP) opex reset conditions, it is not mathematically possible to create a methodology that delivers a consistent sharing ratio. That is

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<sup>4</sup> As described in paragraphs 3.6 and 3.7 of the current IRIS consultation

because for both IPP and CPP regulation the opex allowance in each year of any given control period is able to reflect one-off factors specific to that year, together with a range of forecast approaches for recurrent costs. There needn't be – and presumably generally wouldn't be – any simple formulaic relationship between the costs in one period and those in the following period. This results in the following conclusions:

- a methodology that uses the NPV of the period 2 allowance as an input will almost never correctly calculate the level of non-recurrent costs in the penultimate year of period 1. In other words the assertion of 'fact' in paragraph 3.11 is not correct for CPP and CPP price paths as described above
- this methodology is only likely to yield the correct answer in a limited number of circumstances – i.e. where the supplier's cost behaviour is DPP-like in nature
- the only observable feature is the difference between actual spend v. allowance and whether the difference is an under or over spend. The relativities of the permanent and temporary components, and whether they act in the same direction, cannot be known unless one of the components is known. However, these components are not known (which is why a methodology is proposed to determine the temporary component).

### Supporting analysis

In Appendix 2 we present two opex cost scenarios (over three regulatory periods) that cover a cost profile in one period that may be higher or lower than the profile in the following period. This analysis shows that:

- not only does the methodology produce the wrong quantum (the arrows are not the same size), it can also give the wrong direction (the arrows oppose) and
- any error in the calculation of the penultimate year non-recurrent factors are multiplied by about 5.5 (at a WACC of 7.2%) leading to very significant revenue effects either in favour of the supplier or consumer.

The error, and the multiplier effect that compounds the error, is not a rarity, it is always present. It is impossible to know the magnitude of the error without recourse to a parallel and more reliable method of assessing the level of non-recurrent penultimate year costs. In other words there is **no way of knowing the scale of the error** without knowing what the answer 'should' be. Needing recourse to an alternative and more reliable method (if there is any such method) then removes the need for the methodology proposed.

### These problems also apply other approaches under current settings

We recognise there are various ways, in addition to the Commission's suggested approach, that the Commission could determine the ratio of permanent and non-recurrent savings. For example, it could conduct a detailed ex-post audit of expenditure to inform its determination of which savings are permanent and which are non-recurrent or it could seek to neutralize the effect of the penultimate year by adopting a pre-determined (i.e. arbitrary) ratio.

In our view these options are not suitable for the IPP. Our concern is that these (and any other options we can identify) all require the Commission to exercise administrative judgement, ex post, on significant value impacting issues on matters of significant uncertainty where there is no right answer. We accept there are situations where such judgement cannot be avoided but this is not one

of them. Whichever lens one views this issue through, the incentives sought and the benefits delivered by the IRIS are materially and adversely affected.

We recognise that this is an area of potential difference between the CPP and IPP. Although there are many similarities between the CPP and IPP, the one-off (and often extraordinary circumstances surrounding) transition from DPP to CPP differ from the continuous, multi-period dynamic between IPPs. This may mean different approaches are warranted between IPP and DPP-CPP firms.

### 3. Persevering with a symmetric IRIS for RCP2 would be unsafe

We understand and support the Commission's objectives in introducing a symmetric IRIS for IPP, CPP and DPP firms. Specifically, we agree that it is desirable to have time consistent incentives to achieve efficiency improvements and avoid any perverse incentives to defer efficiency gains or to concentrate these gains in particular years to maximize profits.

It follows that it is the decision to implement a symmetric IRIS in conjunction with current opex reset policy, without first addressing the substantive problems we have identified that troubles us – not its objectives per se. We present Frontier's observations below.

In respect of the application of a symmetric IRIS in conjunction with a 'bottom up' opex reset Frontier agreed that the modified (symmetric) IRIS was problematic. They observed:

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 costs to be incurred.<sup>5</sup>

...

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 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.

Frontier concludes that, 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.

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<sup>5</sup> Frontier Economics, Application of symmetric IRIS, March 2015. Section 3.2.2

- In respect of more typical types of investments in efficiencies, which have multi-year, lagged and/or unpredictable cost saving payoffs (e.g. 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 (i.e. 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.

And overall that:

... the application of the modified IRIS will give rise to perverse and inefficient incentives that work against the long-term interests of consumers.<sup>6</sup>

We have carefully considered how we could work with the symmetric IRIS determined by the Commission for RCP2. Unfortunately that consideration has heightened, not alleviated, our initial concerns. Frontier's advice further reinforces those concerns. We are now firmly of the view that the introduction of a symmetric IRIS for RCP2 would be unsafe.

#### 4. Further work needed on the interaction between opex reset and IRIS

A strong theme of Frontier's report for Transpower is the difficulty applying a symmetric IRIS in conjunction with a 'bottom up' opex reset. We broadly agree with Frontier's analysis and, while we do not yet have a developed view on the optimal reset approach, support their conclusion that:

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.

We recognise that opex is not currently within scope of the IMs however we can see no reason why the opex policy cannot be considered alongside the IM review (which we expect will touch on IRIS and other aspects of the incentive framework). We will comment further in our (pending) submission on the statutory review of the IMs.

#### In the short term a semi-symmetric IRIS is preferable

We consider the Commission is now faced with a choice between (i) persevering with a symmetric IRIS that does not operate as intended under current opex reset conditions (ii) reverting to the RCP1 IRIS or removing the opex IRIS for RCP2.

We support Frontier's conclusion that, for RCP2:

...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).

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<sup>6</sup> Frontier Economics, Application of symmetric IRIS, March 2015. Section 3.2

Figure 1: Assessment of the options against key criteria

Criteria	Combined with the Commission's bottom-up opex forecasting approach		
	Semi-symmetric IRIS	Symmetric IRIS	No IRIS
Predictability of operation	Green	Red	Green
Predictability of RoI	Green	Red	Green
Constant saving incentive	Yellow	Yellow	Red
Appropriateness with 'stretch' targets	Green	Red	Yellow
Familiarity to Transpower	Green	Red	Yellow

Legend	
Performs well	Green
Performs satisfactorily	Yellow
Performs poorly	Red

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.

If the Commission harbours reservations about the very strong incentive for achieving savings in the final year under the RCP1 IRIS then we suggest there may be ways to address this concern directly for RCP2. We would be happy to discuss these options further with the Commission.

If the Commission is unwilling to revert to the RCP1 IRIS for RCP2 (potentially with modification to mitigate consumer risk associated with the final year multiplying effect) then we note Frontier's view that, under current opex reset conditions, consumers may be better off with no IRIS in RCP2. While we are reluctant to propose this alternative we suggest it must be considered.

Please let me know if you have any questions or would like to discuss any of the points made in this submission.

Yours sincerely



Jeremy Cain  
Regulatory Affairs Manager

## Appendix 1

### Frontier Economics: Application of symmetric IRIS

Refer separate document

## Appendix 2

### Graphical analysis of the proposed methodology for the *non-recurrent difference*

The two graphs on the following two pages present two scenarios for changes in opex profiles across regulatory periods. The first scenario (figure 1) represents a profile of low - high - low opex profiles, with an overspend in the penultimate year of the first opex path and underspend in the penultimate year of the second path. The second scenario (figure 2) represents a low - high - low profile, with underspend then overspend in the respective penultimate years. The green arrow shows the size (quantum) and direction (credit or debit) of the actual *non-recurrent difference* (for simplicity, we assume it is **all** non-recurrent difference). The red arrow shows the size and direction of this term calculated using the proposed methodology. The graphs<sup>7</sup> show that the methodology does not deliver the right value (the arrows are not the same size) and sometimes not the right 'direction' (the arrows oppose). The difference between the correct (green) and derived (red) value for the non-recurrent difference creates an error in the value of the non-recurrent difference that is multiplied by 5.44 through applying the formula for the *baseline adjustment term* (clause 3.3.7).

The result for the baseline adjustment term is a very large, incorrect quantum which is possibly in the wrong direction (for example in figure 2 we receive credits instead of debits in the third regulatory period). These graphs are supported by two Excel workbooks enclosed with this submission.

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<sup>7</sup> Note on the graphs we have use the term *non-recurrent factor* instead of the IMs language *non-recurrent difference*, and the multiplier term is shown as 5.45 instead of 5.44 due to rounding error



Figure 2 Applying the CC methodology to opex paths across regulatory periods (low-high-low profile)

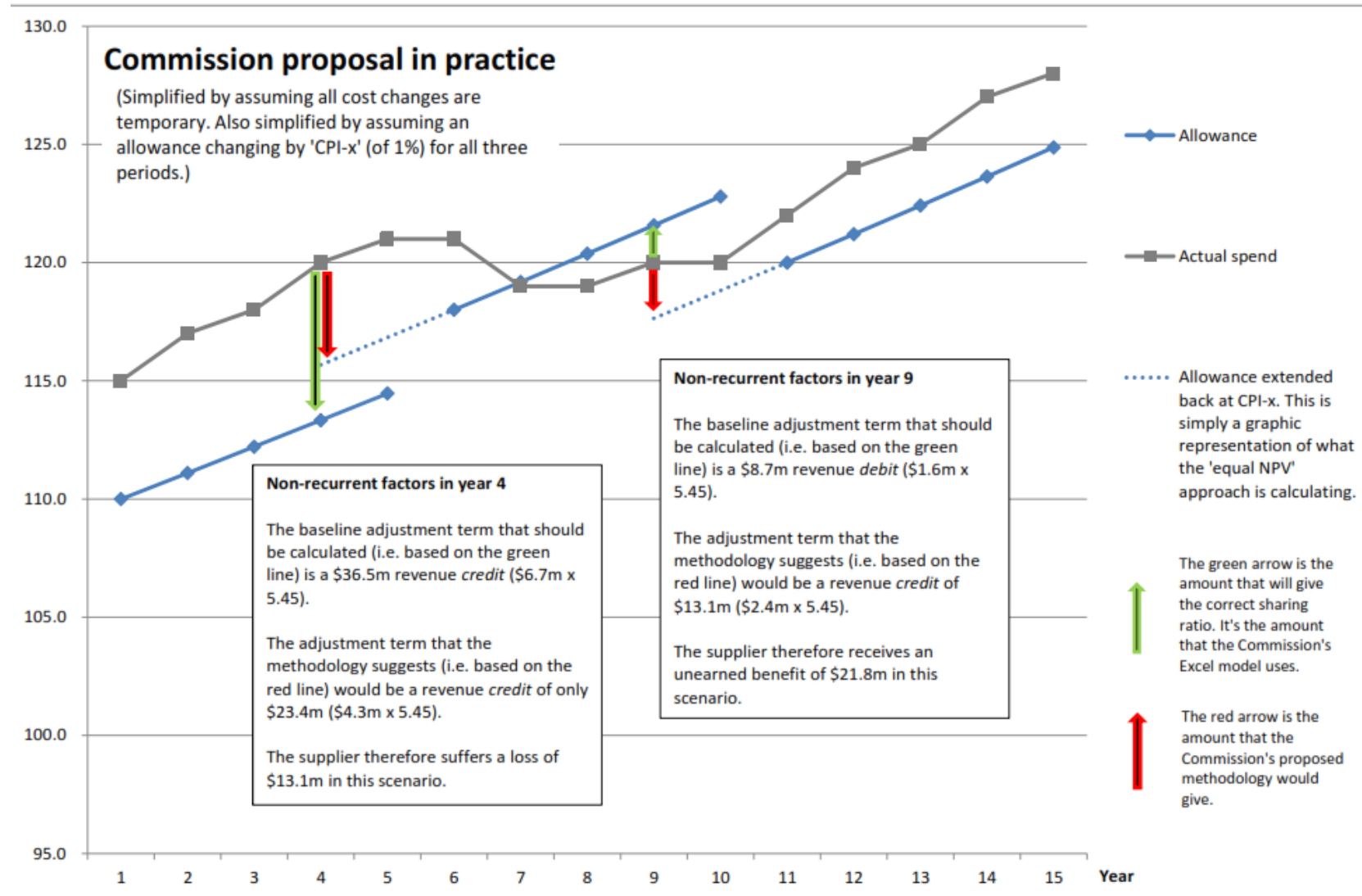


Figure 3 Applying the CC methodology to opex paths across regulatory periods (high-low-high profile)

