ElectraNet Transmission Network Revenue Proposal

Appendix Y – STPIS Capex Adjustment

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By email
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Dear Bill

STPIS calculation methodology

This letter is to confirm that Parsons Brinckerhoff has reviewed the methods used to calculate the values associated with the STPIS for:

- performance targets
- adjustment to performance targets for the forecast capex program
- parameter caps and collars.

We find that the methodology used is sound, in particular:

- Performance targets are based on the average of the audited 5-year performance (2007-2011) in accordance with the STPIS requirements.
- The adjustment made to the performance targets based on the use of historical outages hours and historical capex (excluding contingent projects) to determine a $capex per outage hour ratio and applying this ratio to the forecast capex program is sound.
- Parameter caps and collars are based on establishing a curve of best fit as has been accepted in recent regulatory decisions, using well known software (@risk). The results are contained in a separate PB report.

Yours sincerely

Peter Walshe
Principal Consultant
Parsons Brinckerhoff

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1. Introduction

The purpose of this paper is to set out a methodology for making adjustments to ElectraNet's Service Targets Performance Incentive Scheme (STPIS) targets for the 2013-14 to 2017-18 regulatory control period.

The National Electricity Rules (the Rules) and the STPIS Guideline (the Guideline) provide for adjustment to targets to allow for:

1. statistical outliers;
2. the expected effects on the TNSP's performance from any increases or decreases in the volume of capital works planned during the regulatory control period (compared with the volume of capital works undertaken during the period used to calculate the performance target)[1];
3. the expected material effects on the TNSP's performance from any changes to the age and ratings of the assets comprising the TNSP's transmission system during the TNSP's next regulatory control period(compared to the age and ratings of the TNSP's assets comprising the TNSP's transmission system during the period used to calculate performance targets), and
4. material changes to an applicable regulatory obligation.

As ElectraNet does not expect any material changes in age or ratings of its equipment, or to the applicable regulatory obligations, this paper focuses on adjustments due to changes in volumes of work (item 2).

A capex adjustment is required so as not to unduly penalise a TNSP for undertaking its capital works program which may be larger from one period to the next, and consequently, all things being equal, more likely to have outages.

The principles adopted for the methodology are:

- a transparent and simple process that can be easily understood;
- use of robust data;
- minimal risk of error;
- minimal interpretation; and
- based on a conservative approach (when in doubt adopt measures or methods that favour customers rather than ElectraNet).

2. Options for adjustments to STPIS targets

In recent determinations, TNSP's have:

- sought no adjustment;
- based an adjustment on a benchmark approach linking outage hours and capital expenditure in the current and future regulatory control periods; or
- based an adjustment on a bottom up build of estimated outage hours.

[1] STPIS Guideline clause 3.3(k)(2). The STPIS guideline that will apply to ElectraNet in the next regulatory period was issued in March 2011.

The TransGrid and Powerlink determinations provide examples of the application of these latter two approaches. Both businesses have successfully used the adjustment mechanism to adjust the targets for the Availability parameters.

TransGrid applied a high level scaling of availability targets based on capex increases in its 2009-10 to 2013-14 revenue control period. This methodology established the level of capex and capex related unavailable (outage) hours in the 5 years of the target setting period versus the gross capex over the next period and then adjusted the unavailable hours target up in proportion to the increase in gross capex between the periods.

In the recent Powerlink decision the AER supported Powerlink applying an availability target adjustment via a bottom up assessment of classes of work which have not previously been pursued by the business. The remainder of the proposed work program was claimed to be at the same levels as existing and hence Powerlink proposed no adjustment be made. Powerlink identified the new transmission life extension and tower projects that will occur in the future regulatory period and calculated individual outage times for each project. From this, the total duration of transmission line outages for the additional works was determined. These hours were then used to offset the average hours of line availability for the period.

3. Proposed Methodology

Given that ElectraNet's work program is increasing in its complexity and outage requirements, it is proposed that an adjustment be made to the targets under the STPIS in accordance with the Guideline, based on a top-down methodology. This methodology would apply to the calculation of the adjustment to the Transmission Line Availability, Transmission Line Critical Circuit Peak Availability and Transmission Line Critical Circuit Non-Peak Availability sub-parameters.

Parsons Brinckerhoff has provided expert advice, support and endorsement for the STPIS submission.

The proposed methodology supports the requirement for exclusion by benchmarking the dollar amounts of capex of "network" projects in the five calendar years of the STPIS target setting period to that in the future regulatory control period. "Network" projects are defined as projects that have an expected requirement for outages on the network. These are generally projects with field work relating to substation primary and secondary plant and lines. This includes work on any asset that is likely to be "live", within clearance of live assets, or work on equipment that controls assets that are live (generally classed as augmentation, connection, refurbishment and replacement in the capex program).

The actual outage hours (after defined exclusions) associated with all capex projects in the five years are then scaled according to the capex increase from those 5 years to the next regulatory control period to arrive at an adjustment for the availability parameters for the next period.

Figure 1 demonstrates the proposed approach.

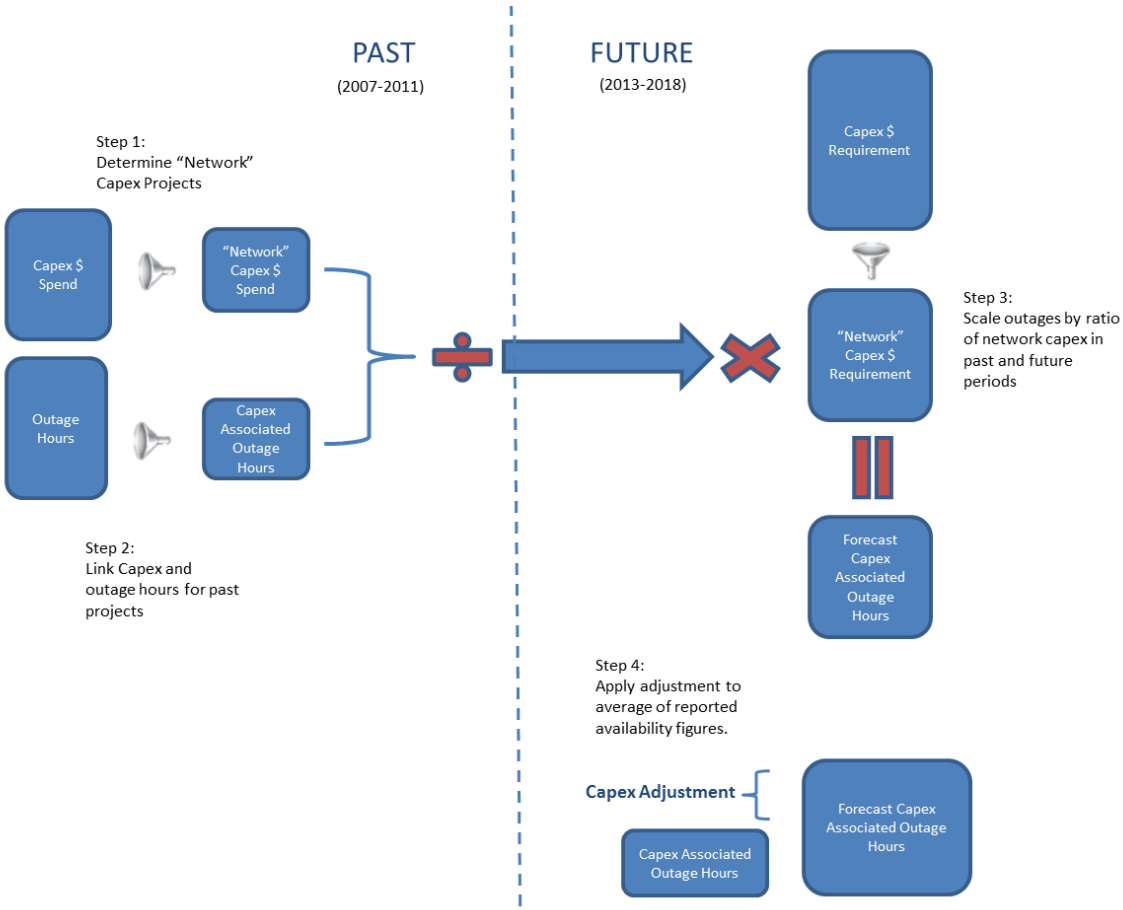

Figure 1: Proposed benchmarking methodology

An advantage of this approach is that projects that span the start and end of the next regulatory control period do not need to be investigated separately, as the capex spend in the period is used as a proxy for outage hours.

As contingent projects[2] do not trigger adjustments to the STPIS targets[3] it is proposed to exclude the capex and outage hours associated with the ACR and Munno Para contingent projects in the current period. Consistent with this the capex and outage hours associated with upcoming contingent projects in the future period are assumed to be excluded from the operation of the scheme and are excluded in the calculation of the adjustment for the availability parameters.

Due to misalignments of calendar years for performance reporting and financial years for regulatory periods 2008 was split into two halves and, for present purposes any parameters relating to 2008 (for example availability) have been averaged.

The forecast number of circuits in the next period is determined simply as the average number of circuits in last period plus the increase in circuits in the last period.

2 Contingent projects are defined in NER clause 6A.8.1(b) and must have a trigger event that may occur within the regulatory control period.

3 The AER has ruled against the inclusion of adjustments to STPIS targets for contingent events in previous regulatory decisions.

In 2007 and 2008 the recording requirements for outages changed. ElectraNet has consulted its switching outage booking records to determine which outages are related to particular projects (if any). Some outages were not found to relate to any particular capex project and on this basis were excluded from the sample, so as to align with the principle to be conservative.

4. Summary of results

The outcome of applying the proposed methodology is shown in Table 1.

Table 1: Summary of adjustment results

Item	Availability	Critical peak	Critical non-peak
Outage hours 2007-2011	5690.53	378.4	739.3
Network Capex 2007-2011 ($m)		$380,190,613.26	
Capex per outage hour ($/hr)	66811.11	1,004,732.06	514,257.56
Forecast Network Capex 2013-2018 ($m)		$587,856,003.56	
Forecast increased outage hours	3108.25	206.69	403.82
Proposed available target adjustment (%)	0.065%	0.021%	0.040%