

**Aon Risk Solutions**  
Global Risk Consulting  
Analytical Services

# Self Insurance Risk Quantification

*ElectraNet Pty Ltd*

*Revised Report – August 2012*

**NON-CONFIDENTIAL**





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## Executive Summary

Aon Risk Solutions (“Aon”) have been engaged by ElectraNet Pty Ltd (“ElectraNet”) to undertake an analysis of their self insured risks.

The scope of this consultancy is to calculate the estimated cost of ElectraNet’s self insured risks for the regulatory period 1 July 2013 to 30 June 2018 to assist with their application to the Australian Energy Regulator (“AER”) for a revenue determination.

This report is a revision of the original report provided in May 2012 (“May 2012 Report”). On 2 August 2012, the AEMC accepted proposed amendments to the operation of the cost pass through provisions for electricity network service providers under the National Electricity Rules. In line with this, ElectraNet is proposing nominated cost pass-through events as part of its Revenue Proposal.

This report provides a revised calculation of estimated self insurance costs, assuming that the following nominated cost pass-through events are accepted by the AER:

- A terrorism event;
- A natural disaster event; and
- An insurance cap event.

If these events are not accepted by the AER, estimated self insurance costs may be subject to change accordingly.

### Methodology and Approach

Risks were considered for inclusion in the self insurance calculation on the basis that they provide a material impact on the cost of self insured risks for ElectraNet.

For risks that were included in the calculation, quantitative techniques were applied to historical losses and additional loss scenarios in order to determine appropriate frequency and severity distributions that reflect the underlying risk.

Using those distributions, a simulation model was run to forecast self insured losses for the upcoming regulatory period.

For all risks (except Workers’ Compensation), losses below \$20,000 were considered ‘business as usual’ risks and categorised as maintenance costs or other operating expenditure. As such, they were not included in the calculation of self insured risks.



## Results

Eight risk categories were considered for the purpose of this analysis, however, only four risk categories were included in the revised calculation of self insured risks. Table 1 shows the average loss forecast for each year split by the included risk categories.

**Table 1 – Average Loss Forecast for 2013/14 to 2017/18 (\$'000)**

Regulatory Year	Line Failures	General Property Damage (Uninsured Losses)	Substation Machinery Breakdown	Workers' Comp	Total Self Insured Risks
2013/14	1,087	38	148	75	1,348
2014/15	1,113	39	149	78	1,379
2015/16	1,142	40	149	81	1,413
2016/17	1,168	41	152	84	1,445
2017/18	1,198	42	152	87	1,480
<b>2013/14-2017/18</b>	<b>5,708</b>	<b>202</b>	<b>750</b>	<b>405</b>	<b>7,064</b>

The average total self-insurance cost across the period of 1 July 2013 to 30 June 2018 is \$7.06m.

## Theoretical Premiums

The average total self insurance cost does not include margins for volatility, expenses, profit or the cost of capital. As such, they are expected to be below the cost of commercial insurance (if it was available).

In line with Section 4.3.21 of the Final Electricity Transmission Network Service Providers Submission Guidelines, September 2007 – Appendix B (“TNSP Guidelines”), we have provided an estimate of the theoretical premium that corresponds to the estimate of self insurance costs. This has been based on industry accepted margins typically applied by commercial insurers. Further details are provided in Section 4.

Table 2 below outlines the estimated theoretical insurance premiums, based on those reasonable industry accepted margins.

**Table 2 – Estimate of Theoretical Premium for 2013/14 to 2017/18 (\$'000)**

	2013/14	2014/15	2015/16	2016/17	2017/18	Total
Average Self Insured Cost	1,348	1,379	1,413	1,445	1,480	7,064
Risk Margin (18.7% of average cost)	252	258	264	270	277	1,321
<b>Sub Total</b>	<b>1,600</b>	<b>1,637</b>	<b>1,677</b>	<b>1,716</b>	<b>1,757</b>	<b>8,386</b>
Expense Margin (10% of Premium)	200	205	210	214	220	1,048
Profit Margin (10% of Premium)	200	205	210	214	220	1,048
<b>Theoretical Premium</b>	<b>2,000</b>	<b>2,046</b>	<b>2,096</b>	<b>2,145</b>	<b>2,196</b>	<b>10,482</b>

### Notes:

1. The source of selected margins is explained in detail in Section 4.

Using these assumptions, the theoretical premium corresponding to the estimate of total self-insurance costs is \$10.48m.



## 1. Introduction and Background

Aon Risk Solutions (“Aon”) have been engaged by ElectraNet Pty Ltd (“ElectraNet”) to undertake an analysis of their self insured risks.

The purpose of this analysis is to provide a loss estimate of ElectraNet’s self insured risks to assist ElectraNet with preparing an application to the Australian Energy Regulator (“AER”) for a revenue determination for the period 1 July 2013 to 30 June 2018.

This report is a revision of the May 2012 Report. On 2 August 2012, the AEMC accepted proposed amendments to the operation of the cost pass through provisions for electricity network service providers under the National Electricity Rules. In line with this, ElectraNet is proposing nominated cost pass-through events as part of its Revenue Proposal.

This report provides a revised calculation of estimated self insurance costs, assuming that the following nominated cost pass-through events are accepted by the AER:

- A terrorism event;
- A natural disaster event; and
- An insurance cap event.

If these events are not accepted by the AER, estimated self insurance costs may be subject to change.

In comparison to the May 2012 Report, the main change to the results of this analysis is that costs associated with above limit Fire Liability risk are no longer included, as it is assumed to be eligible for cost pass-through. Due to this, the selected risk margin has changed slightly to reflect the change in profile of self insured risks.

### Scope of Services

The scope of this consultancy is to:

- Review ElectraNet’s risk profile, insurance program and loss history to identify insured and uninsured risks for the self insured risk quantification; and
- Calculate a loss estimate for the period 1 July 2013 to 30 June 2018 associated with all risks that are currently self insured by ElectraNet, subject to the above nominated cost pass-through events being accepted by the AER.

‘Self insured’ risks fall into two categories:

- **Uninsured risks** – risks where the insurance market does not have the capacity or appetite to offer coverage, or risks that ElectraNet has elected to self insure.
- **Insured risks (within deductible losses)** – for risks where insurance coverage is utilised, this relates to losses that fall within the deductible (or self insured retention).



## 2. Data

### Source of Data

ElectraNet provided the following information for the purpose of this review:

- A summary of loss history for General Property and General Liability;
- Individual loss listings for Substation Machinery Breakdown and Line Failures;
- Exposure information, including number of substations, overhead lines, annual revenue and annual remuneration;
- ElectraNet's 2010 Underwriting Submission;
- A summary of insurance program details, including deductibles, limits and sub-limits;
- A high level summary of ElectraNet's risk register;
- An actuarial report prepared by Brett & Watson Pty Ltd relating to Workers Compensation;
- A report relating to 'Potential harm from fire starts near electricity transmission lines in South Australia', prepared by Rho Environmetrics Pty Ltd and John Field Consulting Pty Ltd.



## 3. Approach and Methodology

### Methodology

A three step approach was used to calculate the cost of self insured risks:

- Determine relevant risk classes to be considered as part of this project;
- For relevant risk classes, apply quantitative techniques using historical risk information to determine appropriate frequency and severity distributions that reflect the underlying risk;
- Run a simulation model using risk modelling software to produce results of the risk quantification.

### Loss Estimates

Typically, the forecast of self insured losses has been based on ElectraNet's historical loss data, however, where applicable, additional scenarios that have a reasonable likelihood of occurrence have been considered and included in the risk forecast.

The forecast of self insured losses has been estimated on the basis that it takes into account:

- Changes to exposure (i.e. number of substations, annual revenue etc.); and
- Changes to inflation.

The loss estimates do not contain any allowances for expenses, profits or the cost of capital, and as such, are expected to be lower than the cost of commercial insurance (if it were available). However, we have included estimates of insurance premiums that correspond to the forecast loss estimates.

The simulation model was run over 2,500,000 trials with a starting seed of 0 and a latin hypercube strata size of 1,000. Given the profile of ElectraNet's self insurance costs, this amount of trials is considered an acceptable amount to gain reasonable certainty around the results for higher percentiles.



## Categories for Revenue Determination

In their application to the AER for a revenue determination, ElectraNet can provide budgeted costs for both capital expenditure and operating expenditure. All costs relating to insurable risk are part of operating expenditure only. These costs fall into three categories:

- Insurance premiums;
- Self insurance costs; and
- 'Business as usual' costs (or maintenance costs).

ElectraNet may also be eligible for a cost pass-through if costs relating to a particular event meet the agreed eligibility criteria and exceed 1 % of Maximum Allowable Revenue ("MAR").

On 2 August 2012, the AEMC accepted proposed amendments to the operation of the cost pass through provisions for electricity network service providers under the National Electricity Rules. In line with this, ElectraNet is proposing the following nominated cost pass-through events as part of its Revenue Proposal.

- A terrorism event;
- A natural disaster event; and
- An insurance cap event.

For the purpose of this report, we assume that the above nominated cost pass-through events are accepted by the AER. If these events are not accepted by the AER, estimated self insurance costs may be subject to change. To ensure that there is no double counting within operating expenditure, we have excluded any insurance premiums, any risks that are covered by an insurance policy, any risks that may be eligible for a cost pass-through; and any 'business as usual' costs.

## Uninsured Risks

For uninsured risks, ElectraNet has advised that losses below \$20,000 are to be categorised as 'business as usual' costs or maintenance costs. As such, the self insurance costs only relate to losses above \$20,000. This is consistent with the AER's accepted approach used for the current regulatory period (2008/09 to 2012/13). Any changes to this approach for the upcoming regulatory period will have an impact on the self insurance costs.

Uninsured risks relate to the property damage for uninsured assets (poles and towers located outside of a substation boundary). These have been classified into the following categories:

- Line Failures; and
- General Property Damage (Uninsured Assets).





## Insured Risks (Within Deductible Losses)

For insured risks, ElectraNet has advised that losses below \$20,000 are to be categorised as 'business as usual' costs (with the exception of Workers Compensation<sup>1</sup>).

Risks with insurance coverage and a deductible of \$20,000 or below have not been considered for quantification. For all other risks with insurance coverage, the self insurance costs only relate to losses above \$20,000 and amounts up to the relevant deductible level.

This is consistent with the AER's accepted approach used for the current regulatory period (2008/09 to 2012/13). Any changes to this approach for the upcoming regulatory period will have an impact on the self insurance costs.

This analysis assumes that the current insurance policy deductibles will remain the same for the entire regulatory period 2013/14 to 2017/18. Any changes to insurance policy deductibles will have an impact on ElectraNet's self insurance costs.

Insured risks have been classified into the following categories:

- Substation Machinery Breakdown;
- General Property Damage (Insured Assets);
- General Liability;
- Fire Liability;
- Workers' Compensation; and
- Other Insured Risks

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<sup>1</sup> ElectraNet is a registered self-insured employer under the WorkCover scheme in South Australia. Losses from the ground-up are included in the self insurance calculation. This is consistent with the accepted approach for the current regulatory period (2008/09 to 2012/13).



## 4. Results Summary

### Loss Estimates

Table 4.1 below summarises the risk categories considered in this analysis and whether or not they were included as part of the self insurance calculation.

**Table 4.1 – Risk categories considered for the self insurance calculation**

Risk	Risk Category	Insurance	Included in Self Insurance Calculation
Property Damage	Line Failures	Uninsured	Yes
	General Property Damage (Uninsured Assets)	Uninsured	Yes
	Substation Machinery Breakdown	Insured	Yes
	General Property Damage (Insured Assets)	Insured	No
Liability	General Liability	Insured	No
	Fire Liability	Insured	No
	Workers' Compensation	Insured	Yes
Minor	Other Insured Risks	Insured	No

**Notes:**

1. Justification for whether each risk category is included in the self insurance calculation is explained in detail in Section 5 – Detailed Results.

For each risk category included in the self insurance calculation, a loss estimate was forecast for the upcoming regulatory period. Table 4.2 shows the average loss forecast for each year split by risk category.

**Table 4.2 – Average Loss Forecast for 2013/14 to 2017/18 (\$'000)**

Regulatory Year	Line Failures	General Property Damage (Uninsured Losses)	Substation Machinery Breakdown	Workers' Comp	Total Self Insured Risks
2013/14	1,087	38	148	75	1,348
2014/15	1,113	39	149	78	1,379
2015/16	1,142	40	149	81	1,413
2016/17	1,168	41	152	84	1,445
2017/18	1,198	42	152	87	1,480
<b>2013/14-2017/18</b>	<b>5,708</b>	<b>202</b>	<b>750</b>	<b>405</b>	<b>7,064</b>

The average self insurance cost for 2013/14 is \$1.35m, and this grows to \$1.48m in 2017/18. This growth is based on changes in exposure (i.e. number of substations and annual remuneration) during that period as well as inflation.



ElectraNet is eligible for a cost pass-through if insurance deductible payments increase above the budgeted amount by more than 1% of MAR in any one year. Based on the current levels of deductible and ElectraNet's risk profile, ElectraNet is well protected from an aggregation of deductibles, and the likelihood of an increase exceeding 1% of MAR in any one year would be negligible (ie. less than 0.01%). This cost pass-through provision has not been included in the self insurance cost.

The average total self insurance cost across the regulatory period of 1 July 2013 to 30 June 2018 is \$7.06m.

These estimates are central estimates (i.e. they are the mean or average value of a range of potential outcomes). Table 4.3 shows the average self insurance costs by risk class for the entire regulatory period, as well as loss estimates at higher percentiles to give an indication of the volatility of self insured risks.

**Table 4.3 – Loss Forecast for 2013/14 to 2017/18 – Including Volatility (\$'000)**

Regulatory Year	Average Losses	Standard Deviation	75 <sup>th</sup> Percentile	90 <sup>th</sup> Percentile
Line Failures	5,708	8,318	6,915	16,797
General Property Damage (Uninsured Assets)	202	127	273	374
Substation Machinery Breakdown	750	360	974	1,232
Workers' Compensation	405	222	493	670
<b>Total Self Insured Risks</b>	<b>7,064</b>	<b>8,325</b>	<b>8,302</b>	<b>18,132</b>

**Notes:**

1. The 75<sup>th</sup> percentile and 90<sup>th</sup> percentile are values based on a simulation of 2,500,000 iterations (ie. regulatory periods).
2. The 75<sup>th</sup> percentile and 90<sup>th</sup> percentile values do not total across the years as each year is independent of each other. As such, there is a diversification benefit of retaining risk over multiple years.
3. Detailed results are provided in Appendix 1.

These estimates do not include margins for volatility, expenses, profit or the cost of capital. As such, they are expected to be below the cost of commercial insurance (if it was available).

In addition, these estimates are not discounted, meaning they do not take into account expected payment patterns or the time value of money.



## Theoretical Premiums

In line with Section 4.3.21 of the TNSP Guidelines, we have provided an estimate of the theoretical premium that corresponds to the estimate of self insurance costs. In order to achieve this, we have incorporated accepted industry margins derived from those used by Australian commercial general insurers.

Firstly, a risk margin has been incorporated to cater for the volatility and uncertainty of the risk. The selected risk margin is taken from the latest General Insurance Risk Margins Industry Report released by APRA in November 2008. It is based on the average of risk margins for premium liabilities used by APRA regulated insurers for Fire and ISR and Employers' Liability (weighted according to ElectraNet's average self insured costs from Table 4.3). Two other sources were also considered for the purpose of selecting an appropriate risk margin. Firstly, we considered risk margins calculated based on a global insurance risk study undertaken by Aon Benfield, which relates to the underwriting volatility of major risks (specific to Commercial Property and Workers Compensation in Australia). Risk margins calculated based on the actual volatility of self insured losses retained by ElectraNet (as per Table 4.3) were also considered, in accordance with APRA's prudential standard GPS 310.

Table 4.4 shows risk margins for consideration based on the APRA Risk Margins Industry Report, the Aon Benfield Insurance Risk Study Report and ElectraNet's modelled volatility (from Table 4.3).

**Table 4.4 – Risk Margins Considered (as a % of the central estimate)**

Risk	APRA	Aon Benfield <sup>1</sup>	ElectraNet <sup>2</sup> 50% of Std Dev	ElectraNet <sup>2</sup> 75% Level of Sufficiency	Selected
Property Damage	18.8%	16.0%	60.8%	17.3%	18.8%
Workers Compensation	17.4%	15.0%	27.5%	21.6%	17.4%
<b>Weighted Average</b>	<b>18.7%</b>	<b>15.9%</b>	<b>58.9%</b>	<b>17.5%</b>	<b>18.7%</b>

### Notes:

1. The risk margin from the Aon Benfield report is equivalent to 50% of the co-efficient of variation, as per APRA's guidelines<sup>2</sup> for general insurance companies when setting loss provisions.
2. The risk margin from ElectraNet's modelled volatility is shown based on a 75% level of sufficiency and 50% of the co-efficient of variation, as per APRA's guidelines for general insurance companies when setting loss provisions.
3. The weighted average is weighted according to ElectraNet's average self insured costs from Table 4.3.

In addition to this, insurers need to recover expenses and make profit, so typical margins of 10% of the premium have been included for each, leaving 80% of the premium relating to the cost of the risk (and associated volatility).

In practice, every commercial insurance company will apply different margins depending on their risk profile, risk appetite and the state of the insurance market cycle. However, the selected margins would be considered typical based on the types of risk that are self insured by ElectraNet.

<sup>2</sup> APRA's Prudential Standard GPS 310 states: The Approved Actuary must provide advice on the valuation of insurance liabilities at a minimum level of sufficiency of 75% (or, the central estimate plus one half of a standard deviation above the mean, whichever is greater). In other words, the valuation of insurance liabilities provided by the Approved Actuary must include a risk margin over and above the central estimate.



Table 4.5 below outlines the estimation of theoretical insurance premiums.

**Table 4.5 – Estimate of Theoretical Premium for 2013/14 to 2017/18 (\$'000)**

	2013/14	2014/15	2015/16	2016/17	2017/18	Total
Average Self Insured Cost	1,348	1,379	1,413	1,445	1,480	7,064
Risk Margin (18.7% of average cost)	252	258	264	270	277	1,321
<b>Sub Total</b>	<b>1,600</b>	<b>1,637</b>	<b>1,677</b>	<b>1,716</b>	<b>1,757</b>	<b>8,386</b>
Expense Margin (10% of Premium)	200	205	210	214	220	1,048
Profit Margin (10% of Premium)	200	205	210	214	220	1,048
<b>Theoretical Premium</b>	<b>2,000</b>	<b>2,046</b>	<b>2,096</b>	<b>2,145</b>	<b>2,196</b>	<b>10,482</b>

Using these assumptions, the theoretical premium corresponding to the self insurance loss estimate is \$10.48m.



## 5. Detailed Results

### 5.1 Line Failures

#### Overview

Line Failures risk is the replacement cost of poles and towers that are located outside of a substation boundary. Any line failures that are a result of poor construction or maintenance have not been included in this analysis. Typically, line failures are caused by localised windstorm events, but, in extreme circumstances, could also be caused by other natural perils such as bushfire or earthquake.

#### Insurance Coverage

Poles and towers located outside of a substation boundary are uninsured assets. As such, the cost of replacing poles and towers as a result of line failures is completely self insured by ElectraNet.

Insurance for these types of exposures is typically cost prohibitive or not available, therefore, self insuring poles and towers is standard industry practice for this type of business.

#### Assessment of Losses

Historical losses between 1962 and 2011 have been analysed. Over these 49 years, there were 17 loss events that would not be categorised as 'business as usual' costs. All loss events were caused by localised windstorm, with the exception of one vandalism event. For each loss event, the number of poles replaced and number of towers replaced was provided.

The 17 loss events can be summarised into three categories:

- events where only poles were replaced;
- events where only towers were replaced; and
- events where both poles and towers were replaced.



Table 5.1.1 below summarises to the loss history for line failures.

**Table 5.1.1 – Summary of Line Failure Losses from 1962 to 2010**

<b>Loss Category</b>	<b>Number of Loss Events</b>	<b>Average Number of Poles Replaced</b>	<b>Average Number of Towers Replaced</b>
Poles Only	6	7.3	
Towers Only	8		4.5
Poles and Towers	3	41.3	29.7

Utilising the historical data for each category, a frequency distribution was selected, and a severity distribution was selected based on the number of poles and towers that were replaced.

ElectraNet provided a range for the current replacement costs of poles and towers as below:

- Poles – \$100k to \$150k; and
- Towers – \$300k to \$350k.

For poles, the replacement cost estimate is based on replacing the entire pole (including the footing). Whereas, for towers, the replacement cost estimate assumes that only steel work would be required and that the footing would remain intact.

The midpoint of these ranges was used in conjunction with the selected frequency and severity distributions to calculate the self insurance cost for 2011/12. For years 2012/12 and beyond, the replacement costs were indexed by 2.5% for each future year to take into account changes to inflation.

Of the 17 losses, there was one significant loss in November 1979, where 78 poles and 78 towers needed to be replaced (cost of \$35,100,000 based on current replacement costs). Since this loss, ElectraNet has improved the design of poles and towers to reduce the likelihood of a loss of this magnitude going forward. Based on this improvement to risk management and the fact that a loss of this size would not ordinarily be expected to occur within a 50 year period, we have diluted its impact in the loss forecast and assumed that it is a 1 in 200 year event (rather than a 1 in 50 year event).

No adjustment to exposure has been made for Line Failures. In our opinion, there is no clear correlation between the size of the network and the frequency (or severity) of losses.



## Cost Pass-Through Considerations

Under the rules, Line Failure losses caused by windstorm are not considered to meet the eligibility criteria for cost pass-through as these events are not considered to be natural disasters. As such, ElectraNet's exposure to Line Failures risk caused by localised windstorm is unlimited and no cost pass-through threshold has been applied to these events.

## Additional Loss Scenarios

No additional loss scenarios were considered for Line Failures.

For windstorm events, a significantly large loss has occurred in the last 50 years (November 1979 loss) and this loss is reflected in the selected severity distributions with an appropriate return period. As such, there is no need to consider additional scenarios for windstorm events.

In extreme circumstances, line failures could also be caused by other natural perils such as bushfire or earthquake. Although there is an inherent low likelihood of these events, the severity could be catastrophic. However, these natural disaster events are assumed to meet the eligibility criteria for cost pass-through under ElectraNet's proposed natural disaster event, subject to costs exceeding 1% of MAR. Given that any additional scenarios beyond this would have an extremely low likelihood and a residual severity less than 1% of MAR, the residual risk is assumed to not have a material impact on the self insurance costs,

## Results

The self insured loss forecast for Line Failures for the regulatory period 2013/14 to 2017/18 is shown in Table 5.1.2 below.

**Table 5.1.2 – Loss Forecast for Line Failures 2013/14 to 2017/18 (\$'000)**

Regulatory Year	Average Losses	Standard Deviation	75 <sup>th</sup> Percentile	90 <sup>th</sup> Percentile
2013/14	1,087	3,537	394	2,390
2014/15	1,113	3,623	404	2,450
2015/16	1,142	3,724	414	2,511
2016/17	1,168	3,801	424	2,574
2017/18	1,198	3,907	435	2,638
<b>Total 2013/14 - 2017/18</b>	<b>5,708</b>	<b>8,318</b>	<b>6,915</b>	<b>16,797</b>

### Notes:

1. The 75<sup>th</sup> percentile and 90<sup>th</sup> percentile are values based on a simulation of 2,500,000 iterations (ie. regulatory periods).
2. The 75<sup>th</sup> percentile and 90<sup>th</sup> percentile values do not total across the years as each year is independent of each other. As such, there is a diversification benefit of retaining risk over multiple years.
3. Detailed results are provided in Appendix 2.

The results indicate that the average total self insurance cost for Line Failures for the period 1 July 2013 to 30 June 2018 is \$5.71m





## 5.2 General Property Damage (Uninsured Assets)

### Overview

General Property Damage (Uninsured Assets) risk is the cost of repairing poles and towers located outside of a substation boundary that are subject to property damage. Typically, losses will be caused by vandalism or accidental damage from third parties. Losses that result in the full loss of a pole or tower are covered by the line failure risk.

### Insurance Coverage

Poles and towers located outside of a substation boundary are uninsured assets. As such, the cost of repairing poles and towers is completely self insured by ElectraNet.

Insurance for these types of exposures is typically cost prohibitive or not available, therefore, self insuring poles and towers is standard industry practice for this type of business.

### Assessment of Losses

Losses below \$20,000 are categorised as 'business as usual' costs (or maintenance costs), as such, only losses above \$20,000 have been considered for the self insurance calculation.

Historical losses between 2007/08 and 2010/11 have been analysed. Over these four years, there were three losses that exceeded \$20,000, totalling \$134,000.

Losses were revalued to take into account changes to inflation, based on a CPI inflation model and assuming future inflation of 2.5% per year.

No adjustment to exposure has been made for General Property Damage (Uninsured Assets). In our opinion, there is no clear correlation between the size of the network and the frequency (or severity) of losses.

An appropriate frequency and severity distribution was selected for this risk, taking into account that the maximum loss amount cannot exceed the replacement cost of the damaged asset (either a pole or a tower).

### Cost Pass-Through Considerations

The maximum loss under this risk category is no more than the replacement cost of a tower (ie. \$350,000). Even if this risk met the eligibility criteria under the current rules, all loss amounts would be less than 1% of MAR, and therefore, no losses are considered to be eligible for cost pass-through.



## Additional Loss Scenarios

No additional loss scenarios were considered for General Property Damage (Uninsured Assets).

These losses are not catastrophic as the maximum loss cannot exceed the replacement value of the damaged asset (either a pole or a tower). As such, there is no need to consider additional scenarios for this risk.

## Results

The self insured loss forecast for General Property Damage (Uninsured Assets) for the regulatory period 2013/14 to 2017/18 is shown in Table 5.2.1 below.

**Table 5.2.1 – Loss Forecast for Property Damage (Uninsured Assets) 2013/14 to 2017/18 (\$'000)**

Regulatory Year	Average Losses	Standard Deviation	75 <sup>th</sup> Percentile	90 <sup>th</sup> Percentile
2013/14	38	54	58	108
2014/15	39	56	60	111
2015/16	40	57	61	114
2016/17	41	58	63	117
2017/18	42	60	64	120
<b>Total 2013/14-2017/18</b>	<b>202</b>	<b>127</b>	<b>273</b>	<b>374</b>

### Notes:

1. The 75<sup>th</sup> percentile and 90<sup>th</sup> percentile are values based on a simulation of 2,500,000 iterations (ie. regulatory periods).
2. The 75<sup>th</sup> percentile and 90<sup>th</sup> percentile values do not total across the years as each year is independent of each other. As such, there is a diversification benefit of retaining risk over multiple years.
3. Detailed results are provided in Appendix 3.

The results indicate that the average self insurance cost for General Property Damage (Uninsured Assets) for the period 1 July 2013 to 30 June 2018 is \$0.20m.



## 5.3 Substation Machinery Breakdown

### Overview

Substation Machinery Breakdown risk is the cost of property damage to substations as a result of equipment failure (or machinery breakdown).

### Insurance Coverage

Losses relating to Substation Machinery Breakdown are insured by an Industrial Special Risks policy. Details of insurance coverage are provided in Appendix 7.

### Assessment of Losses

Losses below \$20,000 are categorised as 'business as usual' costs (or maintenance costs), as such, only losses above \$20,000 have been considered for the self insurance calculation.

Historical losses between 1997 and 2011 have been analysed. Over these 14 years, there were 15 losses that exceeded \$20,000, totalling \$5,145,000.

Losses were revalued to take into account changes to inflation, based on a CPI inflation model and assuming future inflation of 2.5% per year.

The losses can be summarised into two categories: transformer losses and other losses. Table 5.3.1 below summarises the data by category.

**Table 5.3.1 – Summary of Substation Machinery Breakdown losses from 1997 to 2011**

Loss Category	Number of Losses	Revalued Average Cost	Revalued Maximum Cost
Transformer Failure	5	897,476	2,445,758
Other Losses	10	175,360	286,873

For each category, a frequency distribution was selected taking into account changes to exposure (i.e. number of substations) in the past and projected exposure in the future.

Likewise, for each category an appropriate severity distribution was selected. For each category, gross loss amounts were capped (\$5m for transformer losses and \$500k for all other losses). Losses above these amounts have not been considered for the analysis of self insurance costs. This is because they are considered to have a low likelihood (less than once in 14 years), and when we take into account the insurance policy deductible and limit, they are not expected to have a material impact on the self insurance costs.



## Cost Pass-Through Considerations

Under the rules, losses relating to Substation Machinery Breakdown that exceed the limit of liability provided by the ISR policy do meet the eligibility criteria for cost pass-through as an insurance cap event, subject to losses exceeding 1% of MAR. Given the remote likelihood of the loss amount being between the current limit of liability and the current limit of liability plus 1% of MAR, ElectraNet's residual exposure to this risk is assumed to be negligible.

## Additional Loss Scenarios

No additional loss scenarios were considered for Substation Machinery Breakdown.

Given that any additional scenarios would have a lower likelihood than once in 14 years, they are assumed to not have a material impact on the self insurance costs, once we take into account the low level of insurance policy deductibles and the assumption that there is negligible exposure above the insurance policy limit.

## Results

The self insured loss forecast for Substation Machinery Breakdown for the regulatory period 2013/14 to 2017/18 is shown in Table 5.3.2 below.

**Table 5.3.2 – Loss Forecast for Substation Machinery Breakdown 2013/14 to 2017/18 (\$'000)**

Regulatory Year	Average Losses	Standard Deviation	75 <sup>th</sup> Percentile	90 <sup>th</sup> Percentile
2013/14	148	160	250	350
2014/15	149	160	250	350
2015/16	149	161	250	350
2016/17	152	162	250	350
2017/18	152	163	250	350
<b>Total 2013/14 - 2017/18</b>	<b>750</b>	<b>360</b>	<b>974</b>	<b>1,232</b>

### Notes:

1. The 75<sup>th</sup> percentile and 90<sup>th</sup> percentile are values based on a simulation of 2,500,000 trials (ie. regulatory periods).
2. The 75<sup>th</sup> percentile and 90<sup>th</sup> percentile values do not total across the years as each year is independent of each other. As such, there is a diversification benefit of retaining risk over multiple years.
3. Detailed results are provided in Appendix 4.

The results indicate that the average self insurance cost for Substation Machinery Breakdown for the period 1 July 2013 to 30 June 2018 is \$0.75m.



## 5.4 General Property Damage (Insured Assets)

### Overview

General Property Damage (Insured Assets) risk is the cost of property damage to insured assets that do not relate to equipment failure or machinery breakdown at a substation.

Losses are generally caused by storms (including lightning), vandalism and theft (specifically copper theft). In less likely cases, losses may be caused by terrorism or natural perils such as earthquake, bushfire or flood.

### Insurance Coverage

Losses relating to General Property Damage (Insured Assets) are insured by an Industrial Special Risks policy. Details of insurance coverage are provided in Appendix 7.

ElectraNet has advised that property damage caused by declared terrorism events are covered by virtue of the 2003 Insurance Terrorism Act.

### Assessment of Losses

Historical losses between 2000 and 2011 have been analysed. However, during that period, no losses were experienced that exceeded \$20,000.

Given that losses below \$20,000 are categorised under 'business as usual' costs (or maintenance costs), this risk has not been considered for the self insurance calculation.

### Cost Pass-Through Considerations

Under the rules, losses relating to General Property Damage (Insured Assets) do meet the eligibility criteria for cost pass-through as an insurance cap event. As such, losses exceeding the current limit of liability plus 1% of MAR would be eligible for a cost pass-through. Given the remote likelihood of the loss amount being between the current limit of liability and the current limit of liability plus 1% of MAR, ElectraNet's residual exposure to this risk is assumed to be negligible.



## Additional Loss Scenarios

No additional loss scenarios were considered for General Property Damage (Insured Assets).

Given that any additional scenarios would have a lower likelihood than once in 10 years, they are assumed to not have a material impact on the self insurance costs, once we take into account the low level of insurance policy deductibles and the assumption that there is negligible exposure above the insurance policy limit.

## Results

No results were produced for General Property Damage (Insured Assets).



## 5.5 General Liability

### Overview

General Liability risk is ElectraNet's legal liability to pay compensation for economic loss, bodily injury and/or property damage to third parties caused by an occurrence arising from ElectraNet business operations.

### Insurance Coverage

Losses relating to General Liability are insured by the Combined Fire and General Liability policy. Details of insurance coverage are provided in Appendix 7.

### Assessment of Losses

Historical losses between 1990 and 2011 have been analysed. However, during that period, no losses were experienced that exceeded \$20,000.

Losses below \$20,000 are categorised as 'business as usual' costs. ElectraNet's self insurance exposure for this risk category relates to losses that exceed \$20,000, but only up to the amount of the current deductible (see Appendix 7). Under this structure, the self insurance cost for this risk category is likely to be immaterial, and therefore, it is proposed to increase the 'business as usual' cost threshold to amount of the current deductible for this risk category.

The result is that there are no self insurance costs relating to this risk category.

### Cost Pass-Through Considerations

Under the rules, losses relating to General Liability do meet the eligibility criteria for cost pass-through as an insurance cap event. As such, losses exceeding the current limit of liability plus 1% of MAR would be eligible for a cost pass-through.

The Combined Fire and General Liability limit of liability has been selected on the basis of a worst case bushfire. Non bushfire risks are generally thought to be covered by the policy well within the current limit of liability, and as such, the likelihood of a General Liability claim exceeding the current limit of liability would be remote. On this basis, no above limit losses have been included in the self insurance cost for this risk category.



## Additional Loss Scenarios

No additional loss scenarios were considered for General Liability as the full amount of the deductible is assumed to be a 'business as usual' cost.

## Results

No results were produced for General Liability.





## 5.6 Fire Liability

### Overview

Fire Liability risk is ElectraNet's legal liability to pay compensation for economic loss, bodily injury and/or property damage to third parties caused by a fire arising from ElectraNet business operations.

### Insurance Coverage

Losses relating to Fire Liability are insured by the Combined Fire and General Liability policy. Details of insurance coverage are provided in Appendix 7.

### Assessment of Losses

Historical losses between 1990 and 2011 have been analysed. However, during that period, no losses were experienced that exceeded \$20,000.

Losses below \$20,000 are categorised as 'business as usual' costs. ElectraNet's self insurance exposure for this risk category relates to losses that exceed \$20,000, but only up to the amount of the current deductible (see Appendix 7). Under this structure, the self insurance cost for this risk category is likely to be immaterial, and therefore, it is proposed to increase the 'business as usual' cost threshold to amount of the current deductible for this risk category.

### Cost Pass-Through Considerations

Under the rules, losses relating to Fire Liability do meet the eligibility criteria for cost pass-through as an insurance cap event. As such, losses exceeding the current limit of liability plus 1% of MAR would be eligible for a cost pass-through. Given the remote likelihood of the loss amount being between the current limit of liability and the current limit of liability plus 1% of MAR, ElectraNet's exposure to this risk is negligible.

Whilst Fire Liability risk has an inherently low likelihood, the severity could be catastrophic, and ElectraNet may have significant exposure above their limit of liability (as estimated in the May 2012 Report). Even if insurance cover above the current limit of liability was to be sought, Aon recognise that the capacity within the insurance market is not always available or the cost of insurance for those higher limits may be prohibitive.



## Additional Loss Scenarios

No additional loss scenarios were considered for Fire Liability as the full amount of the deductible is assumed to be a 'business as usual' cost and the likelihood of having a claim that exceeds the current limit of liability, but is not greater than the current limit of liability plus 1% of MAR is remote.

## Results

No results were produced for Fire Liability.

The May 2012 Report provided full details of the quantified self insurance cost should the pass through assumed above not be accepted by the AER.



## 5.7 Workers' Compensation

### Overview

Workers' Compensation risk is the cost relating to the personal injury of an employee in the workplace. Costs include:

- weekly payments for income the employee would have earned if they were working;
- reasonable medical and rehabilitation expenses; and
- lump sum payments and ongoing payments in the event of permanent impairment or death.

### Insurance Coverage

ElectraNet is a registered self-insured employer under the WorkCover scheme in South Australia.

A requirement of self-insured employers is to purchase Excess of Loss insurance. Details of insurance coverage are provided in Appendix 7.

### Assessment of Losses

In accordance with requirements for self-insured employers, ElectraNet has engaged an actuary to estimate a provision for outstanding liabilities and a financial guarantee.

As part of that report, the actuary has also provided a forecast for the year ending 30 June 2012.

With reference, to Section 6.2 of the Workers Compensation Report provided by Brett & Watson Pty Ltd (see Appendix 5 – Attachment 3), the loss forecast for the 2011/12 period is \$69,000. This is based on a rate of remuneration of 0.16% for claims and a margin of 8% is added to this for claims administration expenses (i.e. legal costs).

For the purpose of modelling this risk, we have included claims administration expenses (i.e. legal costs) and used an average rate of 0.173% of remuneration (i.e. 0.16% for claims + 8% for legal costs = 0.173%).

To assess the volatility of this risk, we have analysed revalued loss amounts from Appendix C of the Workers Compensation Report. The result gave a standard deviation based on a rate of remuneration of 0.212% (see Appendix 5 – Attachment 2).

As the self insurance calculation is based on a rate of remuneration, changes to exposure for future years have been taken into account based on remuneration forecasts provided by ElectraNet.

Changes to inflation have also been taken into account for the self insurance calculation, as this is inherent within the forecast remuneration values provided by ElectraNet.



## Cost Pass-Through Considerations

Insurance cover for Workers' Compensation is unlimited, and a deductible applies. As such, ElectraNet's maximum exposure per event is the deductible, which is less than 1% of MAR.

As such, no Workers' Compensation losses are considered eligible for cost pass-through for Workers' Compensation.

## Additional Loss Scenarios

No additional loss scenarios were considered for Workers' Compensation.

The self insurance calculation is based on the Workers Compensation report provided by Brett & Watson Pty Ltd and results from that report did not consider any additional scenarios outside of those experienced by ElectraNet since 1 July 2001.

## Results

The self insured loss forecast for Workers' Compensation for the regulatory period 2013/14 to 2017/18 is shown in Table 5.7.1 below.

**Table 5.7.1 – Loss Forecast for Workers' Compensation 2013/14 to 2017/18 (\$'000)**

Regulatory Year	Average Losses	Standard Deviation	75 <sup>th</sup> Percentile	90 <sup>th</sup> Percentile
2013/14	75	92	90	161
2014/15	78	95	94	168
2015/16	81	99	98	174
2016/17	84	103	101	181
2017/18	87	107	105	189
<b>Total 2013/14 - 2017/18</b>	<b>405</b>	<b>222</b>	<b>493</b>	<b>670</b>

### Notes:

1. The 75<sup>th</sup> percentile and 90<sup>th</sup> percentile are values based on a simulation of 2,500,000 trials (ie. regulatory periods).
2. The 75<sup>th</sup> percentile and 90<sup>th</sup> percentile values do not total across the years as each year is independent of each other. As such, there is a diversification benefit of retaining risk over multiple years.
3. Detailed results are provided in Appendix 5.

The results indicate that the average self insurance cost for Workers' Compensation for the period 1 July 2013 to 30 June 2018 is \$0.40m.



## 5.8 Other Insured Risks

### Overview

Other Insured Risks relate to all other insurable risks, most of which are covered by insurance policies purchased by ElectraNet.

### Insurance Coverage

Below is a list of insurance policies purchased by ElectraNet relating to Other Insured Risks.

- Professional Indemnity
- Failure to Supply
- Directors' and Officers' Liability
- Employment Practices Liability
- Statutory Liability
- Group Journey
- Travel / Personal Accident
- Motor Vehicle
- Marine Transit
- Non-resident Medical
- Construction Works

Details of insurance coverage for Other Insured Risks are provided in Appendix 7.

### Assessment of Losses

For all risks with a deductible of \$20,000 or less, losses relating to these risks are categorised as maintenance costs or other operating expenditure.

For Professional Indemnity, Failure to Supply and Employment Practices Liability, losses below \$20,000 are categorised as maintenance costs or other operating expenditure and there have been no losses over \$20,000 in the last ten years. Given that the frequency of losses over \$20,000 is low for each risk and the maximum loss amount for each risk is capped at the deductible, the impact on the self insurance calculation would not be material. As such, we have not included these risks in the self insurance calculation.

Terrorism risk is only covered under the Industrial Special Risks policy for property damage. Other first party and third party liability costs relating to terrorism (including cyber terrorism) are not insured, however, there have been no losses over \$20,000 in the last ten years.



## Cost Pass-Through Considerations

Under the rules, losses relating to Other Insured Risks that are covered by an insurance policy do meet the eligibility criteria for cost pass-through as an insurance cap event. As such, losses exceeding the current limit of liability plus 1% of MAR would be eligible for a cost pass-through.

For Failure to Supply, the risk is well mitigated through contracts in place with generators and load customers connected to the network, as well as the TNSP Operating Agreement. This agreement puts a statutory cap on liability for negligence, currently set at \$100m per annum and \$2m per event in respect of each person who suffers a loss as a result of a relevant event. As such, any risk exceeding the current limit of liability would be extremely rare.

For the other liability risks, such as Professional Indemnity and Directors' and Officers' Liability, Aon recognise that the maximum exposure is difficult to quantify with a high level of certainty. We also understand that the capacity within the insurance market is not always available or the cost of insurance for those higher limits is prohibitive, even if they were to be sought. It should be recognised that ElectraNet has a conceivable and potentially substantial risk exceeding the limit of liability for these risk categories, despite a low likelihood of occurrence.

For Terrorism risk and specifically cyber terrorism risk, this is an emerging risk with insufficient supporting data available for quantification. ElectraNet has advised that, whilst cover is potentially available for cyber risk, it is a developing area of the insurance market and obtaining cover would be quite difficult. Under the rules, losses relating to Terrorism do meet the eligibility criteria for cost pass-through as a terrorism event. As such, losses exceeding 1% of MAR would be eligible for a cost pass-through.

Given the low likelihood of occurrence of all of these exposures and that there is no supporting data available to quantify the residual risk of these exposures, none of the costs have been included in the self insurance cost for these risk categories.

## Results

No results were produced for Other Insured Risks.



## 6. Aon Consultants

The Aon consultants that worked on this engagement were Andrew Kight, Corrinne Ng, and Ross Ivey.

## 7. Disclaimers

The advice provided when calculating expected loss costs in this study is based on actuarial techniques but does not constitute actuarial advice. ElectraNet may wish to seek their own actuarial advice before acting on the findings outlined in this report.

### Data Investigations and Suitability

We have not independently audited the data provided to us, we have not undertaken a detailed check of the individual data or summaries supplied to us and have not examined the claim files associated with individual claims. We are therefore extensively relying on the completeness and accuracy of the data provided.

Consequently, we can take no responsibility for the accuracy or otherwise of this data and its impact on the results, recommendations or conclusions in this report.

### Reasonableness of Approach

In our judgement, we have employed techniques and assumptions that are appropriate for the purpose of this investigation, given the information currently available. We emphasise, however, that future claims emergence may deviate, perhaps materially, from our estimates.

### Variability

Unfortunately, there are many reasons why the estimation model will not be perfect. Models are only approximations to reality. There are real world features that are impossible or impractical to include in a model. In addition, models are based on the past. Because past experience is itself subject to random variation, the estimation of the model parameters is subject to random variation. Professional judgement is an invaluable aid in the estimation process, but again introduces yet another item of uncertainty. Experienced professionals can look at the same facts and draw differing conclusions.

The scientific modelling process, supplemented by professional expertise is, however, the best tool we have. The process adds value as it allows planning under conditions of uncertainty, allows the effects of particular events to be measured and reviewed, and enables the best possible decisions to be made. It remains important to understand the uncertainties in the process. The knowledge of the uncertainty itself allows planning and rational decisions to be made.



## Unanticipated Changes

Unanticipated changes such as judicial decisions, legislative actions, claim consciousness amongst potential claimants, claims management, claims settlement practices, changes in inflation and economic decisions may significantly alter the report's conclusions. Our estimates make no allowance for claim types not represented in the data provided.

## Insurance Program

In making our recommendations we have not taken account of any losses exceeding the protection provided by ElectraNet's insurance program. We are also assuming that the insurers who are providing the protection will be able to meet claims under the terms of the cover advised as applying and will do so in a timely manner. Our scope does not extend to commenting on the suitability of the insurance program.





## Appendix 1. Combined Loss Forecast

Attachment 1. Average Self Insured Loss Forecast – By Year and Risk Category

Attachment 2. Self Insured Loss Forecast – By Risk Category

Attachment 3. Self Insured Loss Forecast Chart

**ElectraNet Pty Ltd**  
**Average Self Insured Loss Forecast**

<b>Year</b>	<b>Line Failure</b>	<b>General Property Damage (Uninsured Assets)</b>	<b>Substation Machinery Breakdown</b>	<b>Workers' Compensation</b>	<b>Total</b>
2012/13	1,059,484	37,434	145,592	71,872	1,314,383
2013/14	1,086,507	38,360	147,984	74,759	1,347,610
2014/15	1,112,996	39,372	148,627	77,743	1,378,737
2015/16	1,142,191	40,328	149,295	80,842	1,412,656
2016/17	1,168,271	41,333	151,638	84,092	1,445,333
2017/18	1,198,054	42,368	152,266	87,452	1,480,139
<b>Total 2013/14 to 2017/18</b>	<b>5,708,019</b>	<b>201,760</b>	<b>749,810</b>	<b>404,887</b>	<b>7,064,476</b>

**Qualifications & Assumptions**

1. Forecast losses are based on loss information provided by ElectraNet.
2. Future changes to exposure have been accounted for based on forecast exposure information provided by ElectraNet.
3. Future claims inflation has been accounted for based on a future inflation rate of 2.5% per year.
4. All values are in AUD.

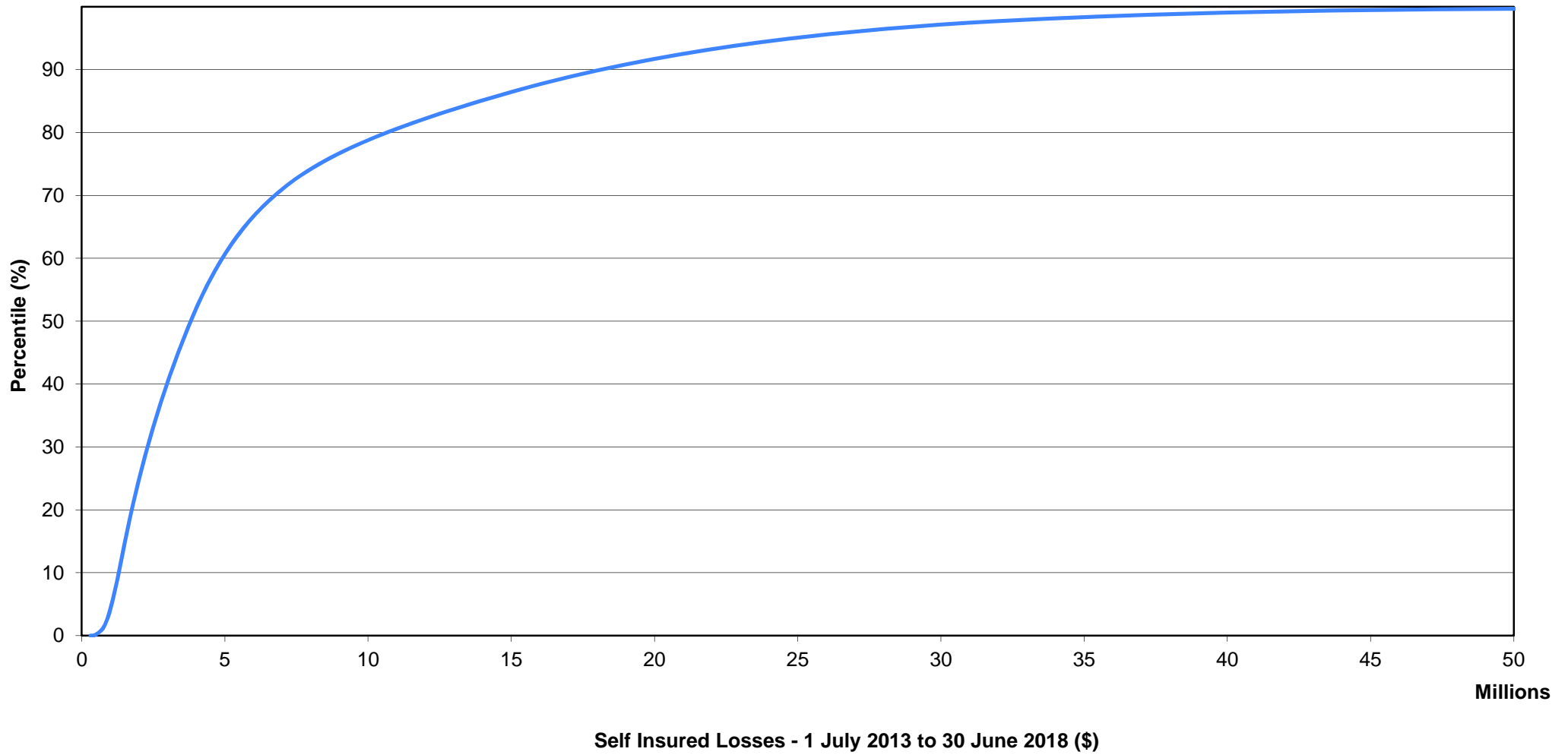
**ElectraNet Pty Ltd**  
**Self Insured Loss Forecast (1 July 2013 to 30 June 2018)**

<b>Risk Category</b>	<b>Mean</b>	<b>Standard Deviation</b>	<b>Median</b>	<b>75th Percentile</b>	<b>90th Percentile</b>	<b>95th Percentile</b>	<b>99th Percentile</b>	<b>Total</b>
Line Failure	5,708,019	8,317,827	2,435,287	6,914,853	16,796,961	23,483,792	38,124,347	<b>5,708,019</b>
General Property Damage (Uninsured Assets)	201,760	127,493	181,048	273,272	373,579	441,252	583,690	<b>201,760</b>
Substation Machinery Breakdown	749,810	360,147	710,522	973,565	1,232,286	1,399,170	1,729,303	<b>749,810</b>
Workers' Compensation	404,887	222,497	354,313	492,510	670,247	811,976	1,188,600	<b>404,887</b>
<b>Total</b>	<b>7,064,476</b>	<b>8,324,594</b>	<b>3,807,972</b>	<b>8,302,006</b>	<b>18,132,465</b>	<b>24,837,530</b>	<b>39,403,434</b>	<b>7,064,476</b>

**Qualifications & Assumptions**

1. Forecast losses are based on loss information provided by ElectraNet.
2. Future changes to exposure have been accounted for based on forecast exposure information provided by ElectraNet.
3. Future claims inflation has been accounted for based on a future inflation rate of 2.5% per year.
4. All values are in AUD.

**ElectraNet Pty Ltd  
Loss Distribution Chart  
Self Insured Losses (1 July 2013 to 30 June 2018)**





## Appendix 2. Line Failures

Attachment 1. Self Insured Loss Forecast

Attachment 2. Loss Summary

Attachment 3. Individual Loss Listing

Attachment 4. Selected Distributions

**ElectraNet Pty Ltd**  
**Line Failure Self Insured Loss Forecast**

<b>Year</b>	<b>Mean</b>	<b>Standard Deviation</b>	<b>Median</b>	<b>75th Percentile</b>	<b>90th Percentile</b>	<b>95th Percentile</b>	<b>99th Percentile</b>
2012/13	1,059,484	3,450,694	0	384,375	2,331,875	5,688,750	18,655,000
2013/14	1,086,507	3,536,520	0	393,984	2,390,172	5,857,234	19,068,844
2014/15	1,112,996	3,623,120	0	403,834	2,449,926	6,003,665	19,599,409
2015/16	1,142,191	3,724,090	0	413,930	2,511,174	6,153,757	20,061,799
2016/17	1,168,271	3,801,474	0	424,278	2,573,954	6,307,601	20,506,774
2017/18	1,198,054	3,907,007	0	434,885	2,638,303	6,465,291	21,077,428
<b>2013/14 to 2017/18</b>	<b>5,708,019</b>	<b>8,317,827</b>	<b>2,435,287</b>	<b>6,914,853</b>	<b>16,796,961</b>	<b>23,483,792</b>	<b>38,124,347</b>

**Qualifications & Assumptions**

1. Forecast losses are based on loss information provided by ElectraNet.
2. Future changes to exposure have been accounted for based on forecast exposure information provided by ElectraNet.
3. Future claims inflation has been accounted for based on a future inflation rate of 2.5% per year.
4. All values are in AUD.

## ElectraNet Pty Ltd Line Failures Loss Analysis Table Statistical Loss Summary

Event Number	Failure Date	# of Structures Replaced	# of Poles Replaced	Total cost (Poles)	# of Towers Replaced	Total cost (Towers)	Overall Total Cost
1	Nov 1962	8	0	\$0	8	\$2,600,000	\$2,600,000
2	Aug 1963	1	0	\$0	1	\$325,000	\$325,000
3	Sep 1965	7	7	\$875,000	0	\$0	\$875,000
4	Oct 1965	6	0	\$0	6	\$1,950,000	\$1,950,000
5	Jan 1973	30	25	\$3,125,000	5	\$1,625,000	\$4,750,000
6	Dec 1973	2	0	\$0	2	\$650,000	\$650,000
7	Jan 1975	9	0	\$0	9	\$2,925,000	\$2,925,000
8	Dec 1977	2	0	\$0	2	\$650,000	\$650,000
9	Nov 1979	156	78	\$9,750,000	78	\$25,350,000	\$35,100,000
10	Jan 1991	27	27	\$3,375,000	0	\$0	\$3,375,000
11	Aug 1995	5	5	\$625,000	0	\$0	\$625,000
12	Oct 1998	4	0	\$0	4	\$1,300,000	\$1,300,000
13	Nov 1999	27	21	\$2,625,000	6	\$1,950,000	\$4,575,000
14	Sep 2004	1	1	\$125,000	0	\$0	\$125,000
15	Jan 2005	1	1	\$125,000	0	\$0	\$125,000
16	Nov 2011	4	0	\$0	4	\$1,300,000	\$1,300,000
17	Dec 2011	3	3	\$375,000	0	\$0	\$375,000
<b>TOTAL:</b>		<b>293</b>	<b>168</b>	<b>\$21,000,000</b>	<b>125</b>	<b>\$40,625,000</b>	<b>\$61,625,000</b>

### Qualifications and Assumptions

1. Pole replacement costs are assumed to be \$125k. Tower replacement costs are assumed to be \$325k. These values are the midpoint of estimates provided by ElectraNet and they represent the estimated replacement cost in 2011.
2. All values are in AUD.

## ElectraNet Pty Ltd

### Line Failures Individual Loss Listing from 1962/63 to 2010/11

Event	Failure Date	Year	Structures Replaced	Age At Failure	TS No.	Type	Line Name	Construction Date	Structures
1	Nov-62	1962	1	2	1910	Tower	Davenport -- Brinkworth	1960	76
1	Nov-62	1962	6	2	1912	Tower	TIPS - Magill	1960	13 to 18
1	Nov-62	1962	1	2	1910	Tower	Davenport -- Brinkworth	1960	76
2	Aug-63	1963	1	3	1912	Tower	TIPS - Magill	1960	116
3	Sep-65	1965	1	11	1821	Pole	Waterloo - Templers	1954	7
3	Sep-65	1965	6	11	1822	Pole	Para - Templers	1954	32,34, 37, 39 to 41
4	Oct-65	1965	6	5	1910	Tower	Davenport -- Brinkworth	1960	51 to 56
5	Jan-73	1973	25	21	1815	Pole	Playford - Bungama	1952	220 to 244
5	Jan-73	1973	5	13	1910	Tower	Davenport -- Brinkworth	1960	290 to 294
6	Dec-73	1973	2	14	1812	Tower	Playford - Pimba 132 kV	1959	329 to 330
7	Jan-75	1975	9	15	1910	Tower	Davenport -- Brinkworth	1960	13 to 21
8	Dec-77	1977	2	18	1812	Tower	Playford - Pimba 132 kV	1959	23 & 24
9	Nov-79	1979	1	25	1846	Pole	Robertstown - North West Bend	1954	110
9	Nov-79	1979	4	25	1846	Pole	Robertstown - North West Bend	1954	119 to 122
9	Nov-79	1979	2	25	1846	Pole	Robertstown - North West Bend	1954	275 & 276
9	Nov-79	1979	1	29	1814	Pole	Bungama - Baroota	1950	9
9	Nov-79	1979	25	27	1816	Pole	Bungama - Hummocks	1952	174 to 198
9	Nov-79	1979	33	25	1804	Pole	Brinkworth --- Mintaro	1954	161 to 193
9	Nov-79	1979	2	25	1819	Pole	Waterloo -- Robertstown	1954	44 & 45
9	Nov-79	1979	9	25	1819	Pole	Waterloo -- Robertstown	1954	54 to 62
9	Nov-79	1979	1	25	1819	Pole	Waterloo -- Robertstown	1954	66
9	Nov-79	1979	5	19	1910	Tower	Davenport -- Brinkworth	1960	130 to 134
9	Nov-79	1979	4	19	1910	Tower	Davenport -- Brinkworth	1960	77 to 80
9	Nov-79	1979	31	19	1911	Tower	Para - Brinkworth	1960	241 to 271
9	Nov-79	1979	38	19	1911	Tower	Para - Brinkworth	1960	287 to 324
10	Jan-91	1991	3	41	1814	Pole	Bungama - Baroota	1950	47 to 59
10	Jan-91	1991	24	39	1816	Pole	Bungama - Hummocks	1952	301 to 324
11	Aug-95	1995	5	43	1815	Pole	Playford - Bungama	1952	41A to 45
12	Oct-98	1998	4	44	1821	Tower	Waterloo - Templers	1954	140 141 142 143
13	Nov-99	1999	21	47	1816	Pole	Bungama - Hummocks	1952	122 to 132 124 to 144
13	Nov-99	1999	6	39	1911	Tower	Para - Brinkworth	1960	280 to 285
14	Sep-04	2004	1	52	1815	Pole	Playford-Bungama	1952	76
15	Jan-05	2005	1	53	1816	Pole	Bungama - Hummocks	1952	
16	Nov-11	2011	4			Tower	Davenport - Leigh Creek		
17	Dec-11	2011	3			Pole	Bungama - Baroota		



## ElectraNet Pty Ltd Line Failures - Key Assumptions

### Selected Distributions

#### Frequency Assumptions

##### Claim Count Summary

Number of Years	Number of Losses		
	Poles Only	Towers Only	Poles & Towers
49 Years	6	8	3
<b>Avg Losses Per Year</b>	0.1224	0.1633	0.0612

##### Selected Distributions

Distribution	Poisson	Poisson	Poisson
<b>Mean</b>	0.1224	0.1633	0.0612

#### Note:

1. Frequency is assumed to remain the same for all years of the regulatory cycle.

#### Severity Assumptions

##### Selected Distributions

Distribution	Poles Only		Towers Only		Poles & Towers	
	Negative Binomial	Negative Binomial	Negative Binomial	Negative Binomial	(Poles)	(Towers)
<b>s</b>	1	2	2	1	2	1
<b>p</b>	0.1364	0.3636	0.0766	0.0738		
<b>Shift</b>	1	1	5	1		

##### Loss Experience (Number of Structures Replaced)

	Poles Only		Towers Only		Poles & Towers	
	(Poles)	(Towers)	(Poles)	(Towers)	(Poles)	(Towers)
<b>Number of Structures Replaced</b>	1	1	25	5		
	1	2	78	78		
	3	2	21	6		
	5	4				
	7	4				
	27	6				
		8				
		9				

##### Correlation between number of structures replaced for 'Poles' and 'Towers' within the 'Poles & Towers' category

	Poles	Towers
<b>Poles</b>	1.00	0.75
<b>Towers</b>	0.75	1.00



## Appendix 3. General Property Damage (Uninsured Assets)

Attachment 1. Self Insured Loss Forecast

Attachment 2. Loss Summary

Attachment 3. Individual Loss Listing

Attachment 4. Selected Distributions

**ElectraNet Pty Ltd**  
**General Property Damage (Uninsured Assets) Self Insured Loss Forecast**

<b>Year</b>	<b>Mean</b>	<b>Standard Deviation</b>	<b>Median</b>	<b>75th Percentile</b>	<b>90th Percentile</b>	<b>95th Percentile</b>	<b>99th Percentile</b>
2012/13	37,434	52,845	22,240	56,738	105,864	143,724	235,176
2013/14	38,360	54,191	22,789	58,225	108,424	147,366	241,429
2014/15	39,372	55,614	23,357	59,721	111,275	151,161	247,339
2015/16	40,328	56,946	23,950	61,152	113,911	154,977	253,415
2016/17	41,333	58,341	24,543	62,712	116,859	158,842	259,446
2017/18	42,368	59,798	25,164	64,274	119,826	162,891	265,682
<b>2013/14 to 2017/18</b>	<b>201,760</b>	<b>127,493</b>	<b>181,048</b>	<b>273,272</b>	<b>373,579</b>	<b>441,252</b>	<b>583,690</b>

**Qualifications & Assumptions**

1. Forecast losses are based on loss information provided by ElectraNet.
2. Future changes to exposure have been accounted for based on forecast exposure information provided by ElectraNet.
3. Future claims inflation has been accounted for based on a future inflation rate of 2.5% per year.
4. All values are in AUD.

**ElectraNet Pty Ltd**  
**General Property Damage (Uninsured Assets) Loss Analysis Table**  
**Statistical Loss Summary**  
**(NOT USING DEVELOPMENT FACTORS)**

Policy Year	Historic			Revalued			
	# Non-Zero Losses	Gross Paid Losses	Gross Outstanding Losses	Gross Incurred Losses	CPI	Ultimate # Non-Zero Losses	Revalued Ultimate Losses
2007/08	1	\$32,000	\$0	\$32,000	1.13	1	\$36,051
2008/09	0	\$0	\$0	\$0	1.08	0	\$0
2009/10	0	\$0	\$0	\$0	1.06	0	\$0
2010/11	2	\$106,000	\$0	\$106,000	1.03	2	\$109,163
2011/12					1.00		
<b>TOTAL:</b>	<b>3</b>	<b>\$138,000</b>	<b>\$0</b>	<b>\$138,000</b>		<b>3</b>	<b>\$145,214</b>
<b>(2007/08 - 2010/11)</b>							

**Qualifications and Assumptions**

1. Information was provided by ElectraNet as at 30 June 2011.
2. Only losses above \$20,000 have been included in this analysis.
3. The policy year has been assumed to run to 30 June for all historic years.
4. Incurred losses have been revalued to 2011 values using a Consumer Price Index Inflation Model.
5. All values are in AUD.

**ElectraNet Pty Ltd**  
**General Property Damage (Uninsured Assets) Individual Loss Listing from 2007/08 to 2010/11**

Policy Year	Date of Occurrence	Claim Summary	Status	Paid	Outstanding	Incurred	CPI	Revalued Incurred
2007/08	01/03/2008	Helicopter contact	C	\$ 32,000	\$ -	\$ 32,000	1.13	\$ 36,051
2010/11	01/09/2010	Vandalism (rifle shot)	C	\$ 30,000	\$ -	\$ 30,000	1.03	\$ 30,895
2010/11	01/03/2011	Vandalism (rifle shot)	C	\$ 76,000	\$ -	\$ 76,000	1.03	\$ 78,268
<b>Total</b>				<b>\$ 138,000</b>	<b>\$ -</b>	<b>\$ 138,000</b>		<b>\$ 145,214</b>

**ElectraNet Pty Ltd**  
**General Property Damage (Uninsured Assets) - Key Assumptions**

**Selected Distributions**

**Frequency Assumptions**

Claim Count Summary

<b>Policy Year</b>	<b>Claim Count</b>
2007/08	1
2008/09	0
2009/10	0
2010/11	2
<b>Total Claim Count</b>	<b>3</b>
<b>Avg Claim Count Per Year</b>	<b>0.75</b>
<b>Std Dev</b>	<b>0.96</b>

Selected Distribution

<b>Distribution</b>	Poisson
<b>Mean</b>	0.75

**Severity Assumptions**

Selected Distribution

	<b>General Property (Uninsured Assets)</b>
<b>Distribution</b>	Pareto 2
<b>b</b>	100,000
<b>q</b>	5
<b>Truncation Limits:</b>	
<b>Lower Bound</b>	20,000
<b>Upper Bound</b>	325,000

Loss Experience (Revalued Incurred Losses)

<b>Values</b>
\$30,895
\$36,051
\$78,268

**Note:**

1. Frequency is assumed to remain the same for all years of the regulatory cycle.



## Appendix 4. Substation Machinery Breakdown

Attachment 1. Self Insured Loss Forecast

Attachment 2. Loss Summary

Attachment 3. Individual Loss Listing

Attachment 4. Selected Distributions

**ElectraNet Pty Ltd**  
**Substation Machinery Breakdown Self Insured Loss Forecast**

<b>Year</b>	<b>Mean</b>	<b>Standard Deviation</b>	<b>Median</b>	<b>75th Percentile</b>	<b>90th Percentile</b>	<b>95th Percentile</b>	<b>99th Percentile</b>
2012/13	145,592	158,476	100,000	250,000	350,000	450,000	639,753
2013/14	147,984	159,760	100,000	250,000	350,000	450,000	647,874
2014/15	148,627	160,179	100,000	250,000	350,000	450,748	650,000
2015/16	149,295	160,739	100,000	250,000	350,000	457,092	650,000
2016/17	151,638	162,173	100,000	250,000	350,000	473,778	660,237
2017/18	152,266	162,572	100,000	250,000	350,000	478,363	662,440
<b>2013/14 to 2017/18</b>	<b>749,810</b>	<b>360,147</b>	<b>710,522</b>	<b>973,565</b>	<b>1,232,286</b>	<b>1,399,170</b>	<b>1,729,303</b>

**Qualifications & Assumptions**

1. Forecast losses are based on loss information provided by ElectraNet.
2. Future changes to exposure have been accounted for based on forecast exposure information provided by ElectraNet.
3. Future claims inflation has been accounted for based on a future inflation rate of 2.5% per year.
4. All values are in AUD.



**ElectraNet Pty Ltd**  
**Substation Machinery Breakdown Loss Analysis Table**  
**Statistical Loss Summary**  
**(NOT USING DEVELOPMENT FACTORS)**

Policy Year	Historic				Revalued Scaled				CURRENT	
	# Non-Zero Losses	Gross Paid Losses	Gross Outstanding Losses	Gross Incurred Losses	Exposure (Number of Substations)	CPI	Scaled Ultimate # Non-Zero Losses	Revalued Scaled Ultimate Losses	Deductible: Aggregate: ElectraNet Retention	\$100k / \$250k None Insurer Retention
1996/97	1	\$130,000	\$0	\$130,000	66	1.49	1	\$242,832	\$242,832	\$0
1997/98	0	\$0	\$0	\$0	66	1.48	0	\$0	\$0	\$0
1998/99	1	\$110,000	\$0	\$110,000	69	1.47	1	\$194,389	\$120,290	\$74,100
1999/00	2	\$225,000	\$0	\$225,000	71	1.45	2	\$380,833	\$233,803	\$147,031
2000/01	1	\$207,000	\$0	\$207,000	72	1.39	1	\$330,701	\$115,278	\$215,423
2001/02	0	\$0	\$0	\$0	74	1.33	0	\$0	\$0	\$0
2002/03	1	\$170,000	\$0	\$170,000	75	1.29	1	\$242,501	\$110,667	\$131,835
2003/04	3	\$2,200,000	\$0	\$2,200,000	75	1.25	3	\$3,053,644	\$428,974	\$2,624,670
2004/05	1	\$165,000	\$0	\$165,000	75	1.23	1	\$223,779	\$110,667	\$113,112
2005/06	1	\$165,000	\$0	\$165,000	76	1.19	1	\$215,094	\$109,211	\$105,884
2006/07	0	\$0	\$0	\$0	78	1.15	0	\$0	\$0	\$0
2007/08	1	\$720,000	\$0	\$720,000	80	1.13	1	\$841,561	\$259,375	\$582,186
2008/09	1	\$44,000	\$0	\$44,000	81	1.08	1	\$48,675	\$48,675	\$0
2009/10	0	\$0	\$0	\$0	82	1.06	0	\$0	\$0	\$0
2010/11	1	\$951,000	\$0	\$951,000	83	1.03	1	\$979,382	\$250,000	\$729,382
2011/12	1	\$58,000	\$0	\$58,000	83	1.00	1	\$58,000	\$58,000	\$0
<b>TOTAL:</b> (1996/97 - 2011/12)	15	\$5,145,000	\$0	\$5,145,000			17	\$6,811,392	\$2,087,770	\$4,723,622

**Qualifications and Assumptions**

- Information was provided by ElectraNet as at August 2011.
- This analysis assumes a 'claims occurrence' wording.
- The policy year has been assumed to run to 30 June for all historic years.
- Incurred losses have been revalued to 2011 values using a Consumer Price Index Inflation Model.
- All values are in AUD.

**ElectraNet Pty Ltd**  
**Substation Machinery Breakdown Individual Loss Listing from 1996/97 to 2011/12**

Policy Year	Date of Occurrence	Location	Equipment Type	Status	Paid	Outstanding	Incurred	CPI	Revalued Incurred
1996/97	12/05/1997	Leigh Creek	Transformer	C	\$ 130,000	\$ -	\$ 130,000	1.49	\$ 193,095
1998/99	11/03/1999	Tailem Bend	Circuit Breaker	C	\$ 110,000	\$ -	\$ 110,000	1.47	\$ 161,601
1999/00	10/04/2000	Para	Current Transformer	C	\$ 135,000	\$ -	\$ 135,000	1.45	\$ 195,464
1999/00	21/11/1999	Morphett Vale East	Current Transformer	C	\$ 90,000	\$ -	\$ 90,000	1.45	\$ 130,309
2000/01	18/05/2001	Playford B	Circuit Breaker	C	\$ 207,000	\$ -	\$ 207,000	1.39	\$ 286,873
2002/03	25/01/2003	Roberstown	Current Transformer	C	\$ 170,000	\$ -	\$ 170,000	1.29	\$ 219,128
2003/04	10/05/2004	Tailem Bend	Transformer	C	\$ 1,950,000	\$ -	\$ 1,950,000	1.25	\$ 2,445,758
2003/04	02/06/2004	Torrens Island	Circuit Breaker	C	\$ 220,000	\$ -	\$ 220,000	1.25	\$ 275,932
2003/04	15/04/2004	Bungama	Circuit Breaker	C	\$ 30,000	\$ -	\$ 30,000	1.25	\$ 37,627
2004/05	03/09/2004	Tailem Bend	Current Transformer	C	\$ 165,000	\$ -	\$ 165,000	1.23	\$ 202,210
2005/06	01/05/2006	Torrens Island	Current Transformer	C	\$ 165,000	\$ -	\$ 165,000	1.19	\$ 196,954
2007/08	01/07/2007	Baroota	Transformer	C	\$ 720,000	\$ -	\$ 720,000	1.13	\$ 811,143
2008/09	11/03/2009	Morpett Vale East	CVT	C	\$ 44,000	\$ -	\$ 44,000	1.08	\$ 47,502
2010/11	01/12/2010	East Terrace	Transformer	C	\$ 951,000	\$ -	\$ 951,000	1.03	\$ 979,382
2011/12	18/08/2011	Whayalla Terminal	Transformer	C	\$ 58,000	\$ -	\$ 58,000	1.00	\$ 58,000
<b>Total</b>					<b>\$ 5,145,000</b>	<b>\$ -</b>	<b>\$ 5,145,000</b>		<b>\$ 6,240,978</b>

## ElectraNet Pty Ltd Substation Machienry Breakdown - Key Assumptions

### Selected Distributions

#### Frequency Assumptions

##### Claim Count Summary

Policy Year	Number of Substations	Claim Count	Claim Count	
			Transformer	Other
1996/97	66	1	1	0
1997/98	66	0	0	0
1998/99	69	1	0	1
1999/00	71	2	0	2
2000/01	72	1	0	1
2001/02	74	0	0	0
2002/03	75	1	0	1
2003/04	75	3	1	2
2004/05	75	1	0	1
2005/06	76	1	0	1
2006/07	78	0	0	0
2007/08	80	1	1	0
2008/09	81	1	0	1
2009/10	82	0	0	0
2010/11	83	1	1	0
2011/12	14	1	1	0
<b>Total</b>	<b>1,137</b>	<b>15</b>	<b>5</b>	<b>10</b>
<b>Claim Count Per 100 Substations</b>		<b>1.319</b>	<b>0.440</b>	<b>0.880</b>

##### Loss Frequency Forecast

Forecast Year	Number of Substations	Claim Count Per 100 Substations		Average Claim Count Per Year	
		Transformer	Other	Transformer	Other
2012/13	83	0.440	0.880	0.365	0.730
2013/14	84	0.440	0.880	0.369	0.739
2014/15	84	0.440	0.880	0.369	0.739
2015/16	84	0.440	0.880	0.369	0.739
2016/17	85	0.440	0.880	0.374	0.748
2017/18	85	0.440	0.880	0.374	0.748

#### Note:

1. The selected frequency distribution for each forecast year is a Poission with a mean value equivalent to the average claim count per year.
2. For the 2011/12 policy year, the number of substations is diluted to take into account that it is only two months from inception.

#### Severity Assumptions

	Transformer		Other
Distribution	Pareto 2	Distribution	LogNormal
b	3,000,000	Mean	220,000
q	4	Std Dev	210,000
Truncation Limits:		Truncation Limits:	
Lower Bound	20,000	Lower Bound	20,000
Upper Bound	5,000,000	Upper Bound	500,000

##### Loss Experience (Revalued Incurred Losses)

	Transformer		Other
	\$58,000		\$37,627
	\$193,095		\$47,502
	\$811,143		\$130,309
	\$979,382		\$161,601
	\$2,445,758		\$195,464
			\$196,954
			\$202,210
			\$219,128
			\$275,932
			\$286,873



## Appendix 5. Workers Compensation

Attachment 1. Self Insured Loss Forecast

Attachment 2. Loss Summary

Attachment 3. Workers Compensation Actuarial Report from Brett & Watson Pty Ltd

**ElectraNet Pty Ltd**  
**Workers' Compensation Self Insured Loss Forecast**

<b>Year</b>	<b>Mean</b>	<b>Standard Deviation</b>	<b>Median</b>	<b>75th Percentile</b>	<b>90th Percentile</b>	<b>95th Percentile</b>	<b>99th Percentile</b>
2012/13	71,872	88,103	45,441	86,686	155,028	219,531	421,615
2013/14	74,759	91,792	47,258	90,153	161,229	228,313	438,471
2014/15	77,743	95,277	49,149	93,760	167,679	237,446	456,016
2015/16	80,842	98,951	51,115	97,510	174,385	246,943	474,260
2016/17	84,092	103,315	53,159	101,411	181,361	256,820	493,226
2017/18	87,452	107,449	55,286	105,467	188,616	267,095	512,949
<b>2013/14 to 2017/18</b>	<b>404,887</b>	<b>222,497</b>	<b>354,313</b>	<b>492,510</b>	<b>670,247</b>	<b>811,976</b>	<b>1,188,600</b>

**Qualifications & Assumptions**

1. Forecast losses are based on loss information provided by ElectraNet.
2. Future changes to exposure have been accounted for based on forecast exposure information provided by ElectraNet.
3. Future wage inflation has been accounted for based on a future inflation rate of 4% per year.
4. All values are in AUD.

**ElectraNet Pty Ltd**  
**Workers Compensation Loss Analysis Table**  
**Statistical Loss Summary**

Injury Year	# of claims	Paid	Incurred	Revalued Incurred
2001	3	\$200,799	\$200,799	\$283,950
2002	2	\$1,042	\$1,042	\$1,540
2003	9	\$4,597	\$4,597	\$6,453
2004	1	\$450	\$450	\$603
2005	4	\$3,048	\$3,048	\$3,860
2006	2	\$198	\$198	\$242
2007	2	\$1,260	\$1,260	\$1,432
2008	3	\$32,899	\$32,899	\$33,579
2009	1	\$607	\$607	\$645
2010	2	\$1,442	\$1,442	\$1,486
2011	1	\$1,960	\$1,960	\$1,960
<b>TOTAL:</b>	30	\$248,302	\$248,302	\$335,750
<b>(2001 - 2010)</b>				
<b>STD DEV:</b>	2.3	\$59,864	\$59,864	\$84,602
<b>(2001 - 2010)</b>				
		<b>Standard Deviation (as a rate of remuneration):</b>		0.212%

**Qualifications and Assumptions**

1. Loss data is taken from the Workers Compensation report prepared by Brett & Watson Pty Ltd.
2. Injury years are years ending 30 June.
3. Annual Remuneration for injury year 2012 is estimated to be \$39.9m.
4. All values are in AUD.

BRETT & WATSON PTY. LTD.  
A.B.N. 65 060 568 676  
CONSULTING ACTUARIES

8 September 2011

Mr D Pegram  
Health & Safety Manager  
ElectraNet Pty Limited  
PO Box 7096  
Hutt Street Post Office  
ADELAIDE SA 5000

Dear Darren,

*Workers Compensation*

**Outstanding Claims Investigation and Amount Required for a Guarantee  
as at 30 June 2011**

I have pleasure in enclosing my report and certificate on the outstanding liability and financial guarantee of ElectraNet SA.

I look forward to discussing the report with you.

Yours sincerely,



L C Brett

---

**Adelaide Office**

Laurie Brett FIA, FIAA  
Bruce Watson FIAA  
Ground Floor, 157 Grenfell Street, Adelaide SA 5000  
Telephone: (08) 8232 1333 Facsimile: (08) 8232 1324

**Melbourne Office**

Deborah Jones FIAA  
PO Box 249, Chelsea VIC 3196  
Telephone/Facsimile: (03) 9774 2833

# BRETT & WATSON PTY. LTD.

A.B.N. 65 060 568 676

CONSULTING ACTUARIES

## ELECTRANET PTY LIMITED

### CERTIFICATE AS TO THE ADEQUACY OF PROVISION FOR OUTSTANDING WORKERS' COMPENSATION CLAIMS AND THE AMOUNT REQUIRED FOR A GUARANTEE AS AT 30 JUNE 2011

In accordance with Sections 8(1)(b) and 10(2) of the Fourth Schedule of the Regulations to the Act, I have investigated the Company's outstanding workers' compensation claims as at 30 June 2011 and expected incurred claims and claim payments for the year ending 30 June 2012. The results of my investigation, which have been produced in accordance with the guidelines for actuarial assessments as required by the Corporation, are contained in my report dated 8 September 2011.

The conclusion I have reached is that an appropriate provision for outstanding claims as at 30 June 2011 would be \$35,000. I estimate the amount to be guaranteed under Section 10 to be \$750,000.



L C Brett  
Fellow of the Institute of Actuaries of Australia

8 September 2011

---

#### Adelaide Office

Laurie Brett FIA, FIAA  
Bruce Watson FIAA  
Ground Floor, 157 Grenfell Street, Adelaide SA 5000  
Telephone: (08) 8232 1333 Facsimile: (08) 8232 1324

#### Melbourne Office

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# BRETT & WATSON PTY. LTD.

A.B.N. 65 060 568 676

CONSULTING ACTUARIES

8 September 2011

Mr D Pegram  
Health & Safety Manager  
ElectraNet Pty Limited  
PO Box 7096  
Hutt Street Post Office  
ADELAIDE SA 5000

Dear Mr Pegram

## *Workers Compensation*

### OUTSTANDING CLAIMS INVESTIGATION AND AMOUNT REQUIRED FOR A GUARANTEE AS AT 30 JUNE 2011

#### **1. *Introduction and Terms of Reference***

- 1.1 Since 1 November 2000, Electranet SA has been a self insured employer under Section 60 of the Workers Rehabilitation and Compensation Act, 1986.

ElectraNet SA is the trading name of the former transmission arm of ETSA Corporation and has taken over the workers compensation liabilities of current employees and former employees of the transmission business of ETSA Corporation, excluding any asbestos related claims.

- 1.2 You have asked me to prepare an actuarial report in respect of:-

- (a) outstanding claims liabilities as at 30 June 2011 in terms of Section 8(1)(b) of the Fourth Schedule of the Regulations to the Act, and

---

#### **Adelaide Office**

Laurie Brett FIA, FIAA  
Bruce Watson FIAA  
Ground Floor, 157 Grenfell Street, Adelaide SA 5000  
Telephone: (08) 8232 1333 Facsimile: (08) 8232 1324

#### **Melbourne Office**

Deborah Jones FIAA  
PO Box 249, Chelsea VIC 3196  
Telephone/Facsimile: (03) 9774 2833

- (b) the amount to be guaranteed under Section 10 of the Fourth Schedule of the Regulations to the Act. The amount of the guarantee, which is subject to a minimum of \$750,000, is determined by the Corporation and comprises 200% of:-
- (i) the outstanding claims liability as at 30 June 2011, plus
  - (ii) the projected liabilities in respect of incurred claims for the year ending 30 June 2012, less
  - (iii) the projected claim payments made during the year ending 30 June 2012 in respect of all claims incurred up to 30 June 2012.

1.3 This valuation has been undertaken on the basis that Electranet continues to operate as a self insured employer.

1.4 I carried out the previous valuation of this portfolio.

1.5 Our report is set out as follows:-

<u>Section</u>	<u>Contents</u>	<u>Page</u>
2.	: Summary	3
3.	: Information supplied.	4
4.	: Methodology adopted for the outstanding claims investigation as at 30 June 2011.	5
5.	: Results of the claims investigation as at 30 June 2011.	6
6.	: Sets out the bank guarantee as at 30 June 2011.	9
7.	: Concluding remarks.	11
 <u>Appendix</u>		
A	: Claims data supplied.	12
B	: Claim payments data supplied.	13
C	: Average claim size for reported claims.	14
D	: WorkCover guidelines.	15

## 2. Summary

### 2.1 Outstanding Liability Estimate as at 30 June 2011

2.1.1 Our estimate of the gross outstanding liability as at 30 June 2011, allowing for future claims inflation at 4.0% per annum and discounting expected claim payments at the rate of 4.8% per annum, is **\$35,000**, determined as follows:-

	\$000
For reported claims still open at 30 June 2011	0
Plus: allowance for reopenings, IBNR's and for the unforeseen escalation of case estimates	<u>32</u>
	32
Plus: 8% for administration expenses	<u>3</u>
	35
Estimated outstanding liability	<u>35</u>

2.1.2 The gross outstanding liability is \$35,000 and as there are no expected recoveries, the net outstanding liability is also **\$35,000**.

2.1.3 Our assessment of the outstanding claims liability is a central estimate, which is an estimate that is neither deliberately overstated nor understated.

### 2.2 Bank Guarantee

The amount of the Bank Guarantee at 30 June 2011 is **\$750,000**, determined as follows:-

Outstanding liability as at 30 June 2011, plus	\$ 35,000
Projected incurred claims costs for the year ending 30 June 2012, less	\$ 68,000
Projected claim payments for the year ending 30 June 2012	<u>\$ 24,000</u>
	\$ 79,000
Plus 100%	<u>\$ 79,000</u>
	<u>\$ 158,000</u>

Subject to a minimum of \$750,000.

### **3. Information**

3.1 The information available for this investigation included:

- \* Lists of claims containing the following claim details:-
  - claim number
  - description of injury
  - date of injury
  - amounts paid to 30 June 2011
  - outstanding estimates
  - claim status (open or closed).
- \* Information regarding the number of employees and remuneration.
- \* Details of the Company's reinsurance arrangements.

3.2 A summary of the claims data supplied is set out in Appendices A and B.

3.3 We have relied on the data provided. Independent verification of the data has not been undertaken but it has been reviewed for reasonableness and consistency both internally and by reference to the data supplied for previous investigations.

## **4. Methodology of Outstanding Claims Investigation**

### **4.1 Introduction**

4.1.1 The number of claims incurred since 30 September 1987 is very small. As at 30 June 2011 there were no reported claims regarded as open. Accordingly, an estimated outstanding liability as at 30 June 2011 in respect of incurred but not reported claims (IBNR) and for reopened claims only was required. An allowance for claims handling expenses was also made. Future claim costs were projected allowing for inflation and discounted for investment returns.

4.1.2 Our assessment of the outstanding claims liability is a central estimate, which is an estimate that is neither deliberately overstated nor understated.

### **4.2 IBNRs, Reopenings**

An allowance was made for the following contingent liabilities:-

- (i) claims incurred which had not been reported at the time of our examination of the claims files (i.e. "IBNR" claims), and
- (ii) claims incurred which are regarded as finalised but in respect of which there may actually be further payments to make (e.g. recurrence of the injury).

### **4.3 Administration Expenses**

In accordance with WorkCover guidelines, claims administration expenses have been taken as 8% of future claim payments.

### **4.4 Projection Assumptions**

The estimated outstanding liability is initially expressed in current values. Adjustments were made to allow for:-

- (a) future claim inflation, and
- (b) future investment returns by discounting expected future claim payments.

## **5. Results of Outstanding Claims Investigation**

### **5.1 Reported Claims Still Open at 30 June 2011**

There were no reported claims open at 30 June 2011.

### **5.2 Allowance for IBNR Claims and Reopened Claims**

5.2.1 The past claims history under WorkCover to 31 October 2000, of the transmission business of ETSA comprised only 25 claims, all of which were finalised with total claim payments of \$180,151. Clearly this portfolio has had an exceptionally light claims history, averaging about 2.5 claims per annum with average claim costs of \$15,300, in current dollars (refer Appendix C.1).

5.2.2 For the period 1 November 2000 to 30 June 2011 there have been 29 claims with payments to date of \$248,213. These 29 claims are equivalent to about 2.5 claims per annum since Electranet became a self insured Employer. The average claim size is \$11,600, in current dollars, for these claims (refer Appendix C.1).

5.2.3 There has been one very large claim reported since Electranet became self-insured which was eventually redeemed for a total cost of \$200,071. Removing this very large claim from the self-insured experience reduces the total claim payments of the 28 remaining claims to \$48,142, of which \$9,862 is in respect of 17 minor claims made since Electranet became self-insured. Furthermore, not one claim which was incurred prior to 1 November 2001 has been re-opened since that date. However, in the past 12 months one post self-insured claim was re-opened and further payments of \$15,408 were made.

5.2.4 As Electranet is liable for all claim costs in respect of the re-opening of closed claims, not only claims incurred since self-insurance but also claims incurred prior to self-insurance, that is, from 30 September 1987 to 31 October 2000, I consider an amount of \$25,000, in current dollars, is appropriate for the liability for reopenings.

5.2.5 Taking into account the possibility of an IBNR claim for, say \$8,000, which is about the average claim size for all claims, excluding the very large claim (refer Appendix C.2), I consider an appropriate outstanding liability for this portfolio to be **\$33,000**, in current values.

### **5.3 Administration Expenses**

The adjusted provision should then be increased by a further 8% to allow for the costs involved in administering the claims run-off.

#### 5.4 Estimation of Outstanding Liability

Our estimate of the outstanding liability as at 30 June 2011, in current values, for claims incurred prior to 30 June 2011 is therefore **\$36,000**, determined as follows:-

	\$000
Case estimates for reported claims	0
Plus: allowance for reopenings, IBNR's and for the unforeseen escalation of case estimates	<u>33</u>
	33
Plus: 8% for administration expenses	<u>3</u>
Estimated outstanding liability	<u>36</u>

#### 5.5 Inflation

5.5.1 Our estimate of the outstanding liability as at 30 June 2011 is \$36,000, in current values. We also have to consider any adjustments which may be necessary for the effects of increases in benefit levels and other costs due to future inflation.

5.5.2 Statutory benefits are increased annually in line with wage inflation. Other costs such as hospital and medical are also expected to rise broadly in line with inflation. Having regard for various economic forecasts of wage and price inflation, we have assumed future claims inflation of **4.0%** per annum. This is 0.5% higher than the inflation rate adopted in the previous valuation. The increase in assumed inflation rate is due to the higher economic forecasts for wage and price inflation this year compared to the previous year.

5.5.3 It is our experience that the overall level of payments may increase at a faster rate than inflation. This is referred to as superimposed inflation and it arises from such things as precedent setting court awards and a tendency for claimants to stay on benefits longer as the scheme becomes better understood. Having regard for the assessment of future claims, we consider that it is not necessary to make any specific assumptions about superimposed inflation in this instance.

#### 5.6 Discount Rate

Based on Commonwealth Bond interest rates at 30 June 2010, and taking into consideration the average term for outstanding claims, we consider that it would be reasonable to assume a gross rate of interest of **4.8%** per annum. At the previous valuation, the discount rate was assumed to be 4.5% per annum. The increase in the discount rate is due to changes in the level of market interest rates since the previous valuation.

## 5.7 Estimated Liability

5.7.1 Assuming an inflation rate of 4.0% per annum and a discount rate of 4.8% per annum and based on the average term for outstanding claims, our estimate of the outstanding liabilities is **\$35,000**, comprised as follows:-

	\$000
For reported claims still open at 30 June 2011	0
Plus: allowance for reopenings, IBNR's and for the unforeseen escalation of case estimates	32
	<hr/>
	32
Plus: 8% for administration expenses	3
	<hr/>
Estimated outstanding liability	<u>35</u>

5.7.2 As there are no expected recoveries, both the gross liability and the net liability is \$35,000.

5.7.3 It is not possible to calculate the ratio of the liability to case estimates as there are no open claims.

## 5.8 Central Estimate

You will appreciate that the processes used in reaching the estimate are statistical in nature and, as such, there can be variation from the results. The estimates made on the available information are in the nature of a central estimate which has an approximately equal chance of eventually proving to be too high or too low. That is, our outstanding liability estimate of **\$35,000** is neither deliberately over stated nor understated.

## 5.9 Sensitivity

If the allowance for reopenings and IBNR is varied by 50%, up or down, the estimated liability would be:-

- (a) \$17,500 for a 50% decrease in IBNR, or
- (b) \$52,500 for a 50% increase in IBNR.

The actual liability may emerge to be outside the above range.



## **6. *Bank Guarantee***

### **6.1 Level of the Guarantee**

The amount to be guaranteed under Section 10 of the Fourth Schedule of the Regulations to the Act is determined by the Corporation and comprises 200% of:-

- (i) the outstanding claims liability as at 30 June 2011, plus
- (ii) the projected liabilities in respect of incurred claims for the year ending 30 June 2012, less
- (iii) the projected claim payments made during the year ending 30 June 2012 in respect of all claims incurred up to 30 June 2012.

The guarantee amount is subject to a minimum of \$750,000.

### **6.2 Expected Incurred Claims for Year Ending 30 June 2012**

We have been advised by the Company that the total remuneration for the year ending 30 June 2012 is estimated to be \$39,947,000.

The average incurred cost since 1 July 2000, in current values has been 0.16% of remuneration. We consider this rate suitable for projecting future experience. Accordingly, the expected incurred claims cost for the year ending 30 June 2012 is 0.16% of \$39,947,000, that is \$64,000.

Allowing for inflation of 4.0% per annum, a discount rate of 4.8% per annum and based on an estimated average term of 2 years, the expected claims cost is **\$68,000**, including claims administration costs.

### 6.3 Expected Claim Payments for Year Ending 30 June 2012

- 6.3.1 There were no open claims as at 30 June 2011.
- 6.3.2 Our estimate for IBNR claims and reopenings, in current dollars, is \$35,000 (refer section 5.4). We consider 20% of this amount will be paid during the year ending 30 June 2012, that is, \$7,000.
- 6.3.3 Our estimate of the claims costs, in current dollars, to be incurred during the year ending 30 June 2012 is \$68,000, including claims administration expenses (refer section 6.2). Based on our experience of the payment patterns of a large number of self insured employers, we consider 25% of this cost will be paid during the year ending 30 June 2012, that is, \$17,000.

The total expected claim payments for the year ending 30 June 2012, including allowance for claims administration expenses is therefore, **\$24,000**.

- 6.3.4 In our report of 10 September 2010, we projected claim payments including 8% for administration costs for the year ending 30 June 2011 to be \$16,000. The actual payments were \$17,861 (refer Appendix B), or \$19,290 when 8% is added for claims administration costs.

### 6.4 Amount of the Guarantee

The amount of the Bank Guarantee is therefore **\$750,000**, determined as follows:-

Outstanding liability as at 30 June 2011 (refer section 5.8), plus	\$ 35,000
Projected incurred claims costs for the year ending 30 June 2012 (refer section 6.2), less	\$ 68,000
Projected claim payments for the year ending 30 June 2012 (refer section 6.3.3)	\$ 24,000
	<hr/>
	\$ 79,000
Plus 100%	\$ 79,000
	<hr/>
	<b>\$158,000</b>

Subject to a minimum of \$750,000.

## 7. *Conclusions*

- 7.1 The net outstanding liability as at 30 June 2011 is estimated to be **\$35,000**.
- 7.2 The level of the required Bank Guarantee as at 30 June 2011 is estimated to be **\$750,000**.
- 7.3 Our assessment of the liability for outstanding claims has been made with difficulty as this portfolio has no open claims and has had only about 2 claims per annum over the past 15 years making the likely future experience extremely difficult to determine. Accordingly, the estimate of the liability, which consists of incurred but not reported claims and liability for reopenings, is most uncertain. In addition, changes to legislation, economic conditions, the employers attitude, business environment, court decisions and other external influences may affect claimants attitudes to claiming and ultimately future payments. Actual future payments may therefore vary significantly from our assessment. Nevertheless, we believe the conclusions contained in this report are based on assumptions which are reasonable in current circumstances.
- 7.4 This report has been prepared in accordance with the guidelines for actuarial assessments as set out by the WorkCover Corporation. In our opinion this report complies with the Institute of Actuaries professional standard PS300, Valuation of General Insurance Claims.

Yours sincerely,

A handwritten signature in cursive script that reads "L C Brett".

L C Brett  
Fellow of the Institute of Actuaries of Australia

APPENDIX A : CLAIMS DATA SUPPLIED

Injury Year Ending 30 June	Open Claims			Closed Claims			All Claims		
	Number of Claims <sup>^</sup>	Amount Paid \$	Outstanding Estimates \$	Number of Claims <sup>^</sup>	Amount Paid \$		Number of Claims <sup>^</sup>	Amount Paid \$	Outstanding Estimates \$
1988*	0	0	0	0	0		0	0	0
1989	0	0	0	6	32,491		6	32,491	0
1990	0	0	0	3	44,489		3	44,489	0
1991	0	0	0	1	851		1	851	0
1992	0	0	0	3	21,679		3	21,679	0
1993	0	0	0	1	57		1	57	0
1994	0	0	0	2	14,474		2	14,474	0
1995	0	0	0	3	24,252		3	24,252	0
1996	0	0	0	0	0		0	0	0
1997	0	0	0	3	38,966		3	38,966	0
1998	0	0	0	1	86		1	86	0
1999	0	0	0	0	0		0	0	0
2000	0	0	0	1	2,717		1	2,717	0
2001	0	0	0	3	200,799		3	200,799	0
2002	0	0	0	2	1,042		2	1,042	0
2003	0	0	0	9	4,597		9	4,597	0
2004	0	0	0	1	450		1	450	0
2005	0	0	0	4	3,048		4	3,048	0
2006	0	0	0	2	198		2	198	0
2007	0	0	0	2	1,260		2	1,260	0
2008	0	0	0	3	32,899		3	32,899	0
2009	0	0	0	1	607		1	607	0
2010	0	0	0	2	1,442		2	1,442	0
2011	0	0	0	1	1,960		1	1,960	0
<b>Total</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>54</b>	<b>428,364</b>		<b>54</b>	<b>428,364</b>	<b>0</b>

<sup>^</sup> Excludes claims closed for no cost

\* Nine months to 30 June 1988

APPENDIX B : CLAIMS DATA SUPPLIED

TABLE 1 : PAYMENTS BY DEVELOPMENT YEAR

Injury Year Ending 30 June	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	TOTAL
	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$
1989	32,491	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	32,491
1990	44,489	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	44,489
1991	851	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	851
1992	21,679	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	21,679
1993	57	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	57
1994	14,474	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	14,474
1995	24,252	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	24,252
1996	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1997	38,966	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	38,966
1998	86	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	86
1999	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2000	2,717	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2,717
2001	340	9,166	181,627	8,728	938	0	0	0	0	0	0	0	0	0	0	0	0	0	200,799
2002	1,042	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1,042
2003	4,289	82	57	169	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4,597
2004	327	123	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	450
2005	1,922	1,126	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3,048
2006	198	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	198
2007	950	0	0	0	310	0	0	0	0	0	0	0	0	0	0	0	0	0	1,260
2008	970	0	16,463	15,466	0	0	0	0	0	0	0	0	0	0	0	0	0	0	32,899
2009	607	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	607
2010	1,317	125	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1,442
2011	1,960	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1,960
Total																			428,364

TABLE 2 : PAYMENTS BY PAYMENT YEAR

Payment Year Ending 30 June	Gross Amount Paid	Recovery	Net Amount Paid
	\$	\$	\$
1989	32,491	0	32,491
1990	44,489	0	44,489
1991	851	0	851
1992	21,679	0	21,679
1993	57	0	57
1994	14,474	0	14,474
1995	24,252	0	24,252
1996	0	0	0
1997	38,966	0	38,966
1998	86	0	86
1999	0	0	0
2000	2,717	0	2,717
2001	340	0	340
2002	10,208	0	10,208
2003	185,916	0	185,916
2004	9,137	0	9,137
2005	3,040	0	3,040
2006	1,493	0	1,493
2007	950	0	950
2008	970	0	970
2009	607	0	607
2010	17,780	0	17,780
2011	17,861	0	17,861
Total	428,364	0	428,364

The net total workers compensation payments made during the year to 30 June 2011 were: \$ 17,861

APPENDIX C.1

Average Reported Claim Size

Year Ending 30 June	Number of Reported Claims <sup>^</sup>	Reported Incurred Cost # \$000	Average Reported Claim Size \$	Average Claim Size Current Dollars
1989	6	32	5,415	13,578
1990	3	44	14,830	34,675
1991	1	1	851	1,847
1992	3	22	7,226	14,861
1993	1	0	57	114
1994	2	14	7,237	14,085
1995	3	24	8,084	15,567
1996	0	0		
1997	3	39	12,989	23,624
1998	1	0	86	150
1999	0	0		
2000	1	3	2,717	4,463
2001	3	201	66,933	94,650
2002	2	1	521	770
2003	9	5	511	717
2004	1	0	450	603
2005	4	3	762	965
2006	2	0	99	121
2007	2	1	630	716
2008	3	33	10,966	11,193
2009	1	1	607	645
2010	2	1	721	743
2011	1	2	1,960	1,960
<b>All</b>	<b>54</b>	<b>427</b>		<b>13,299</b>
<b>to 31/10/2000</b>	<b>25</b>	<b>179</b>		<b>15,301</b>
<b>from 01/11/2000</b>	<b>29</b>	<b>248</b>		<b>11,573</b>

<sup>^</sup> Excludes claims closed for no cost  
<sup>#</sup> Claim payments plus estimated outstanding liability for reported claims

**APPENDIX C.2**

**Average Reported Claim Size  
Excluding the large 2001 claim**

Year Ending 30 June	Number of Reported Claims <sup>^</sup>	Reported Incurred Cost #	Average Reported Claim Size \$	Average Current Claim Size Dollars \$
1989	6	32	5,415	13,578
1990	3	44	14,830	34,675
1991	1	1	851	1,847
1992	3	22	7,226	14,861
1993	1	0	57	114
1994	2	14	7,237	14,085
1995	3	24	8,084	15,567
1996	0	0		
1997	3	39	12,989	23,624
1998	1	0	86	150
1999	0	0		
2000	1	3	2,717	4,463
2001	2	1	364	559
2002	2	1	521	770
2003	9	5	511	717
2004	1	0	450	603
2005	4	3	762	965
2006	2	0	99	121
2007	2	1	630	716
2008	3	33	10,966	11,193
2009	1	1	607	645
2010	2	1	721	743
2011	1	2	1,960	1,960
<b>All</b>	<b>53</b>	<b>227</b>		<b>8,213</b>
<b>to 31/10/2000</b>	<b>25</b>	<b>179</b>		<b>15,301</b>
<b>from 01/11/2000</b>	<b>28</b>	<b>48</b>		<b>1,870</b>

<sup>^</sup> Excludes claims closed for no cost

# Claim payments plus estimated outstanding liability for reported claims

**APPENDIX D****WORKCOVER ACTUARIAL GUIDELINES ISSUED JULY 2001**

1. Actuarial reports provided for the purposes of fixing the level of financial guarantees should state whether the valuation is done on the basis of the claims continuing to be managed by the exempt employer or by the Corporation.
2. For the purpose of the calculation of the net present value of a future stream of payments used to calculate a provision for future liabilities a real discount rate of no greater than 4% should be used.
3. Any estimate of outstanding liability for an employer should include adequate provision for claims incurred but not reported (IBNR) based on the history of claims reporting patterns of that employer over a period of at least three years (or such other time as the Corporation approves) and should make reasonable allowance for claims that occur gradually, eg hearing loss, as well as a factor to escalate the provisions based on movements in past estimates.
4. Realistic and adequate provision should be made for liabilities that may arise pursuant to Section 43 (lump sums).
5. The estimate of outstanding liability should include a provision for future administration expense in handling claims and that expense factor should not be less than 8% of claims value of payments.
6. Any estimate of outstanding liability prepared for an exempt employer should be validated by a physical review of a sample of the employers claims to verify the basis of the valuation.
7. In choosing the sample required under para 5, an actuary should include a review of claims in each of the following categories. The cost referred to should be considered to be the full incurred cost including both the cost paid to the date at which the report is compiled and the estimate of future outstanding liability on the claim.
  - 7.1 All open claims where the estimate exceeds \$100,000; and
  - 7.2 20% of claim files where the estimate is between \$5,000 and \$100,000; and
  - 7.3 5% of claim files where the estimate is less than \$5,000 and 5 days time has been or is expected to be lost; and
  - 7.4 Such proportion as the actuary deems proper of claims closed during the period since the last review, with a view to identifying the probability and cost of re-opening claims and to providing a comment on whether the proportion of claims examined in this category is adequate to provide a proper view.



In relation to categories 7.2 and 7.3, if there are less than 10 claims in the category, then all such claims should be reviewed; if there are more than 10 claims in the category, 10 or the number of claims derived in accordance with the stated requirement should be reviewed, whichever is the greater, up to 25 per category. If the actuary believes that a true reflection cannot be achieved with the maximum number stated above, then he should review such higher number of claims as he deems appropriate.

8. The report should state the number of claims reviewed in each of the categories.
9. The report should list the estimated liability in aggregate for each claim year as assessed by the actuary and as assessed by the exempt employer.
10. After reviewing the sample the actuary should state, after taking into account the sample reviewed, what is the most appropriate method of valuation of the particular portfolio of outstanding liabilities and the reasons.
11. The report must include a statement of the total workers compensation payments made during the year under review regardless of the claim year the payments apply to.
12. The report must include a claims paid development table including all claim years for which a payment was made during the period under review. For example:

Claim Year	Payment Year 1	Payment Year 2	Payment Year 3	Payment Year 4	Payment Year 5	Payment Year 6	Total payments
1995	X	XX	XXX	XXXX	XXXXX	XXXXXX	TOTAL
1996	X	XX	XXX	XXXX	XXXXX		TOTAL
1997	X	XX	XXX	XXXX			TOTAL
1998	X	XX	XXX				TOTAL
1999	X	XX					TOTAL
2000	X						TOTAL

13. The report must include a list of total estimated incurred costs for each claim year in respect of which a payment has been made during the period under review.
14. Potential recoveries under any excess of loss or other insurance maintained by the employer shall not be taken into account in determining the employer's workers compensation liabilities.
15. Any allowance for discounting or inflation must be stated in such a way as both the rate and the total dollar amount of the discount or inflation allowance are readily identifiable.
16. All costs associated with the actuarial analysis is at the employer's costs unless otherwise specified by the Corporation. Accounts for actuarial services should be rendered directly to the employer.



## Appendix 6. Aon Consultants' CVs



## Andrew Kight

*Analytical Services – Aon Global Risk Consulting (Australia)*

### **Qualifications**

- Bachelor of Commerce (Actuarial Studies), The University of Melbourne

### **General experience and background**

- Andrew is currently a Senior Consultant in the Analytical & Captives team within Aon Global Risk Consulting. He has seven years of experience in the general insurance industry and his role involves quantitative loss modelling, risk retention assessments, reserve valuations and risk tolerance analysis predominantly to major corporate organisations in Australia.
- Andrew's main focus is on working with organisations that self insure a significant portion of their risk. This generally involves organisations that utilise a risk retention vehicle (i.e. a captive or managed fund) to finance these risks. Andrew assists these organisations with understanding the risk that they retain and also the amount that they should set aside to fund those risks.
- Andrew has experience working with a broad range of clients across a full spectrum of sizes and industries, ranging from local government entities to national and global corporate companies in industries as varied as Healthcare, Finance, Retail and Energy/ Utilities.
- Andrew also provides support internally, demonstrating to Aon's broking teams and their clients the concepts of total cost of insurable risk, risk tolerance & appetite and quantitative loss modelling and how they assist in making informed decisions around insurance renewal options and identifying the most efficient level of self insurance.

### **Job specific experience**

- Andrew has undertaken analytical consulting work for all electricity DNSPs in NSW, Victoria and SA, and specifically was involved in the self insurance risk quantification for the majority of electricity DNSPs and TNSPs in Victoria and SA during their most recent regulatory pricing submission.



## Ross Ivey

*Risk Consulting – Aon Global Risk Consulting (Australia)*

### **Qualifications**

- Bachelor of Business (Accounting), Monash University
- Bachelor of Computing (Applications Development), Monash University
- Certified Practising Accountant – CPA Australia
- Diploma of Financial Services – Risk Management

### **General experience and background**

- Ross is currently a Principal within the Risk Consulting team of Aon Global Risk Consulting. This team provides risk profiling, risk management, risk retention, and quantitative analysis to major corporate organisations. Ross' primary expertise is in the area of developing risk management frameworks and facilitating risk assessments. The risk assessments are conducted across both insurable and business risks to assist organisations demonstrate good corporate governance and ultimately reduce the occurrence of 'surprises'.
- Ross has experience working with clients across a full spectrum of sizes and industries, ranging from local government entities to national and global corporate companies in industries as varied as Healthcare, Finance, Mining and Energy/ Utilities.
- Ross joined Aon in September 2002 as an Assistant Accountant within the Captive Management team. In this role his main responsibility was assisting in the provision of financial statements and other regulatory reports for the captive subsidiaries of Aon clients. Subsequent to Captive Management, Ross worked in Analytical Services providing extensive quantitative support to Aon insurance brokers. This demonstrated to broking clients the concepts of Total Cost of Insurable Risk, Risk Tolerance, Risk Appetite and Loss Modelling Analysis and how they assist in making informed decisions around insurance renewal options.
- Prior to joining Aon, Ross was an accountant for Kidmans (Melbourne) Pty, working across both the business services and financial services disciplines. Duties included preparation of financial statements, tax returns and performance measurement & analysis for various clients, as well as obtaining finance for both individuals and businesses.

### **Job specific experience**

- Ross has undertaken consulting work for the majority of electricity DNSPs and TNSPs in Victoria, NSW, Queensland, SA and WA, and specifically was involved in the self insurance risk quantification for the majority of electricity DNSPs and TNSPs in Victoria and SA during their most recent regulatory pricing submission.



## Corrinne Ng

*Analytical Services – Aon Global Risk Consulting (Australia)*

### **Qualifications**

- Bachelor of Business (Economics & Finance), RMIT University
- Master of Finance, RMIT University
- Post Graduate Diploma of Insurance, Deakin University
- Fellow CIP of the Australian & New Zealand Institute of Insurance & Finance

### **General experience and background**

- Corrinne is currently an Analyst for the Analytical & Captives team within Aon Global Risk Consulting. Her role involves quantitative loss modelling, risk retention assessments, reserve valuations and risk tolerance analysis predominantly to Aon's major corporate clients in Australia.
- Corrinne has experience working with a broad range of clients across a full spectrum of sizes and industries, ranging from local government entities to national and global corporate companies in industries as varied as Healthcare, Finance, Transport, Retail and Energy/ Utilities.
- Corrinne provides quantitative support internally to Aon insurance brokers; assisting in demonstrating to broking clients the concepts of total cost of insurable risk, risk tolerance & appetite and quantitative loss analysis and how they assist in making informed decisions around insurance renewal options and identifying the most efficient level of self insurance.
- Prior to Corrinne's current role, she was an Account Executive within the Aon Corporate Risk Services division. Apart from the usual dealings with client and insurer queries, and the day-to-day management of accounts, her other duties includes processing of invoices, preparation of quote & placing slips, certificates of insurance, claims reporting, reports & manuals, premium calculations, lodging of claims and incidents, compliance and maintenance of internal client records and risk management requirements, dealing with the overseas network offices and also assisting with credit control.

### **Job specific experience**

- Corrinne has undertaken analytical consulting work for the majority of electricity DNSPs in Victoria, Queensland, SA and WA, and specifically was involved in the self insurance risk quantification for the majority of electricity DNSPs and TNSPs in Victoria and SA during their most recent regulatory pricing submission.



## Appendix 7. Insurance Program Summary



## About Aon

Aon plc (NYSE: AON) is the leading global provider of risk management, insurance and reinsurance brokerage, and human resources solutions and outsourcing services. Through its more than 61,000 colleagues worldwide, Aon unites to empower results for clients in over 120 countries via innovative and effective risk and people solutions and through industry-leading global resources and technical expertise. Aon has been named repeatedly as the world's best broker, best insurance intermediary, reinsurance intermediary, captives manager and best employee benefits consulting firm by multiple industry sources.

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