Aon Risk Solutions
Global Risk Consulting
Analytical Services

Self Insurance Risk Quantification

ElectraNet Pty Ltd

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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.

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 five risk categories were included in the 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	Fire Liability	Workers' Comp	Total Self Insured Risks
2013/14	1,087	38	148	131	75	1,479
2014/15	1,113	39	149	128	78	1,507
2015/16	1,142	40	149	133	81	1,546
2016/17	1,168	41	152	150	84	1,595
2017/18	1,198	42	152	149	87	1,630
2013/14-2017/18	**5,708**	**202**	**750**	**691**	**405**	**7,755**

The average total self-insurance cost across the period of 1 July 2013 to 30 June 2018 is $7.76m.

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	1,479	1,507	1,546	1,595	1,630	7,755
Risk Margin (19.8% of average cost)	293	298	306	316	323	1,536
Sub Total	**1,772**	**1,805**	**1,852**	**1,911**	**1,952**	**9,291**
Expense Margin (10% of Premium)	221	226	231	239	244	1,161
Profit Margin (10% of Premium)	221	226	231	239	244	1,161
Theoretical Premium	**2,214**	**2,256**	**2,315**	**2,388**	**2,440**	**11,614**

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 $11.61m.

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.

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.

'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 have 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").

ElectraNet (in conjunction with Grid Australia) are in the process of proposing a rule change relating to the pass-through of residual risks for Transmission Network Services Providers ("TNSPs"). For the purpose of this report, we assume that the proposed rule change is not accepted by the AER, leaving ElectraNet with significant self-insured exposure for certain risks. In this report, we will refer to this proposal as the Grid Australia Proposal ("GA Proposal").

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.

Under the current rules, losses relating to uninsured risks do not meet the eligibility criteria for cost pass-through. As such, the self insurance costs reflect ElectraNet's unlimited exposure to uninsured risks.

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[1]).

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.

Under the current rules, losses that exceed insurance policy limits do not meet the eligibility criteria for cost pass-through. As such, the self insurance costs reflect ElectraNet's exposure above insurance policy limits for insured risks.

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

1 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	Yes
	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	Fire Liability	Workers' Comp	Total Self Insured Risks
2013/14	1,087	38	148	131	75	1,479
2014/15	1,113	39	149	128	78	1,507
2015/16	1,142	40	149	133	81	1,546
2016/17	1,168	41	152	150	84	1,595
2017/18	1,198	42	152	149	87	1,630
2013/14-2017/18	**5,708**	**202**	**750**	**691**	**405**	**7,755**

The average self insurance cost for 2013/14 is $1.48m, and this grows to $1.63m 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 $7.76m.

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	75th Percentile	90th 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
Fire Liability	691	23,370	0	0
Workers' Compensation	405	222	493	670
Total Self Insured Risks	**7,755**	**24,810**	**8,335**	**18,282**

Notes:

1. The 75th percentile and 90th percentile are values based on a simulation of 2,500,000 iterations (ie. regulatory periods).
2. The 75th percentile and 90th 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, Casualty Facultative Excess of Loss and Employers' Liability (weighted according ElectraNet's average self insured costs from Table 4.3). Casualty Facultative Excess of Loss has been selected instead of Public and Products Liability as it is a better representation of the above limit Fire Liability risk.

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[1]	ElectraNet[2] *50% of Std Dev*	ElectraNet[2] *75% Level of Sufficiency*	Selected
Property Damage	18.8%	16.0%	10.5%	18.1%	18.8%
Liability	33.9%	27.0%	1936.7%	-100.0%	33.9%
Workers Compensation	17.4%	15.0%	27.5%	21.6%	17.4%
Weighted Average	**19.8%**	**16.7%**	**148.3%**	**9.9%**	**19.8%**

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[2] 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.

2 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.

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.

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	1,479	1,507	1,546	1,595	1,630	7,755
Risk Margin (19.8% of average cost)	293	298	306	316	323	1,536
Sub Total	**1,772**	**1,805**	**1,852**	**1,911**	**1,952**	**9,291**
Expense Margin (10% of Premium)	221	226	231	239	244	1,161
Profit Margin (10% of Premium)	221	226	231	239	244	1,161
Theoretical Premium	**2,214**	**2,256**	**2,315**	**2,388**	**2,440**	**11,614**

Using these assumptions, the theoretical premium corresponding to the self insurance loss estimate is $11.61m.

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 natural perils such as wind, storm or fire.

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. 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

Loss Category	Number of Loss Events	Average Number of Poles Replaced	Average Number of Towers Replaced
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 have 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 current rules, losses relating to Line Failures do not meet the eligibility criteria for cost pass-through. As such, ElectraNet's exposure to Line Failures risk is unlimited and no cost pass-through threshold has been applied.

Additional Loss Scenarios

No additional loss scenarios were considered for Line Failures.

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 this risk.

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	75th Percentile	90th 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
Total 2013/14 - 2017/18	**5,708**	**8,318**	**6,915**	**16,797**

Notes:

1. The 75th percentile and 90th percentile are values based on a simulation of 2,500,000 iterations (ie. regulatory periods).
2. The 75th percentile and 90th 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	75th Percentile	90th 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
Total 2013/14-2017/18	**202**	**127**	**273**	**374**

Notes:

1. The 75th percentile and 90th percentile are values based on a simulation of 2,500,000 iterations (ie. regulatory periods).
2. The 75th percentile and 90th 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 8.

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 current rules, losses relating to Substation Machinery Breakdown do not meet the eligibility criteria for cost pass-through. As such, ElectraNet is exposed to losses that exceed the current ISR limit of liability.

The ISR limit of liability has been selected on the basis of the full replacement value of the largest substation site. Given that a substation machinery breakdown is only able to impact on one site, the limit of liability should be sufficient on all occasions for Substation Machinery Breakdown risk. As a result, 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 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 fact that there is no 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	75th Percentile	90th 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
Total 2013/14 - 2017/18	**750**	**360**	**974**	**1,232**

Notes:

1. The 75th percentile and 90th percentile are values based on a simulation of 2,500,000 trials (ie. regulatory periods).
2. The 75th percentile and 90th 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, theft (specifically copper theft) or earthquake.

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 8.

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 current rules, losses relating to General Property Damage (Insured Assets) do not meet the eligibility criteria for cost pass-through. As such, ElectraNet is exposed to losses that exceed the current ISR limit of liability.

The ISR limit of liability has been selected on the basis of the full replacement value of the largest substation site. As such, the only opportunity of an above limit loss would be due to the aggregation of risks relating to one event (for example, an earthquake). Given the separation of assets, it would be highly unlikely for this to occur. Due to this remote likelihood, and the fact that there is little or no supporting data to utilise, ElectraNet’s exposure to above limit risk is not considered material for this risk category, and therefore, it has not been included in the self insurance costs.

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.

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 8.

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 8). 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 current rules, losses relating to General Liability do not meet the eligibility criteria for cost pass-through. As such, ElectraNet is exposed to losses that exceed the current limit of liability.

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 8.

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 8). 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 current rules, losses relating to Fire Liability do not meet the eligibility criteria for cost pass-through. This leaves ElectraNet with a significant self-insured exposure above their limit of liability, despite the inherent low likelihood of this occurring.

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.

However, if the GA Proposal is accepted, losses exceeding the current limit of liability plus 1% of MAR would be eligible for a cost pass-through, on the basis that they meet other eligibility criteria. 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 would be negligible if the GA proposal is accepted.

Additional Loss Scenarios

Given ElectraNet's significant self-insured exposure above their current limit of liability, we have included additional loss scenarios that have not been experienced in the last 20 years.

In order to arrive at a frequency and severity that represents a reasonable reflection of the risk, we have utilised data from two key sources:

- 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 ("the report"); and
- Layered pricing of ElectraNet's Combined Fire and General Liability program.

In summary, the report provided potential costs of fire starts in transmission line easements managed by ElectraNet. Costs were calculated for 202 sampling points along ElectraNet's network, and they ranged from $0 to $1.88b. The costs were based on fire sizes that were equivalent to a 1 in 100 year high fire size within each Fire Ban District ("FBD"). This essentially normalises the costs so that the likelihood of a fire within different FBDs does not need to be considered. Given that there are 15 FBDs, the fire sizes in this sample could be assumed to have a return period of 6.7 years (ie. 100 divided by 15).

Severity Distribution

In order to estimate the severity distribution, the costs associated with the 202 sampling points can be used, however, they are not evenly distributed along the network. Fortunately, Table 9 of the report (see Appendix 5 - Attachment 3) actually allocates the line lengths to potential damage classes (costs of the fire). Utilising this table, weightings can be applied to the costs associated with the 202 sampling points within each damage class and a distribution can be selected that relates to the severity of fire losses (see Appendix 5 - Attachment 3).

Frequency Distribution

The frequency of the costs associated with the selected severity distribution would be 1 in 6.7 years. However, for a claim to be brought against this policy, a loss needs to be the fault of ElectraNet (ie. through their negligence), so the likelihood of a fire being started by ElectraNet's business operations needs to also be included.

There is limited data available to estimate the likelihood of a fire being started by ElectraNet's business operations. According the Volume 2, Chapter 4 of the Victorian Bushfire Royal Commission report, it has been claimed that 1.5% of the total annual fire ignitions in 'normal circumstances' were caused by electricity assets, however, on days of extreme fire conditions, the incidence of fires caused by electricity assets rises dramatically. If we look at three of the major bushfires in Victoria in the last 35 years, approximately 50% of the fires were started by electricity assets (February 1977: Nine out of 16 fires, February 1983: Four out of eight fires, February 2009: allegedly five out of 11 fires).

It should be noted that risks of a bushfire start from an electricity transmission system are significantly lower than that of a lower voltage distribution network. The conductors are much higher above the ground, the conductors are much further apart and vegetation clearance zones are much greater on transmission assets. This needs to be considered when assessing the frequency of this risk.

Given that we have no solid data on this, the views of the insurance market have been utilised to estimate the frequency of a fire caused by ElectraNet's business operations. The premiums provided by the insurance market can give an indication of their views of the risk and its likelihood. It is expected that different insurers will rate the risk differently, but across the board, the insurance market should provide a reasonable indication of the likelihood of a loss.

The analysis of this information is shown in Appendix 5. – Attachment 2. The results suggest that the return period of a $150m loss would be about 1,000 years. Based on the selected severity distribution, this equates to a return period of any fire loss as 220 years. This means that of all fire starts associated with the selected severity distribution (where 1 in 100 year high fire conditions prevail within each FBD), ElectraNet business operations would cause the fire 3.0% of the time. Based on the qualitative information above, this would not be considered unreasonable. As a result, a return period of 220 years (or a frequency of 0.00455 losses per year) has been used for the purpose of this analysis.

The costs from the report were revalued to 2010 values. For the purpose of the forecast, future inflation of 2.5% per year has been assumed.

No adjustment for future changes to exposure has been made for Fire Liability. The size of the network is assumed to remain relatively constant for the next regulatory cycle.

Results

The self-insured loss forecast for Fire Liability for the regulatory period 2013/14 to 2017/18 is shown in Table 5.6.1 below.

Table 5.6.1 – Loss Forecast for Fire Liability 2013/14 to 2017/18 ($'000)

Regulatory Year	Average Losses	Standard Deviation	75th Percentile	90th Percentile
2013/14	131	9,819	0	0
2014/15	128	9,870	0	0
2015/16	133	10,223	0	0
2016/17	150	11,115	0	0
2017/18	149	11,164	0	0
Total 2013/14 - 2017/18	**691**	**23,370**	**0**	**0**

Notes:

1. The 75th percentile and 90th percentile are values based on a simulation of 2,500,000 trials (ie. regulatory periods).
2. The 75th percentile and 90th 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 Fire Liability for the period 1 July 2013 to 30 June 2018 is $0.69m.

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 8.

Assessment of Losses

In accordance with requirements for self-insured employers, ElectraNet have 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 6 – 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 6 – 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	75th Percentile	90th 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
Total 2013/14 - 2017/18	**405**	**222**	**493**	**670**

Notes:

1. The 75th percentile and 90th percentile are values based on a simulation of 2,500,000 trials (ie. regulatory periods).
2. The 75th percentile and 90th 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 6.

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 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 8.

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.

Cost Pass-Through Considerations

Under the current rules, third party liability costs are not eligible for cost pass-through. This leaves ElectraNet with a significant self-insured exposure above their limit of liability for Professional Indemnity, Failure to Supply and Directors' and Officers' Liability, despite the low likelihood of this occurring.

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 risk categories, 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 have a conceivable and potentially substantial risk exceeding the limit of liability for these risk categories, despite a low likelihood of occurrence.

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

However, if the GA Proposal is accepted, losses exceeding the limit plus 1% of MAR would be eligible for a cost pass-through, on the basis that they meet other eligibility criteria. Given the remote likelihood of the loss amount being between the limit and the limit plus 1% of MAR, ElectraNet's exposure to this risk would be negligible if the GA proposal is accepted.

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

Year	Line Failure	General Property Damage (Uninsured Assets)	Substation Machinery Breakdown	Fire Liability	Workers' Compensation	Total
2012/13	1,059,484	37,434	145,592	107,493	71,872	1,421,875
2013/14	1,086,507	38,360	147,984	131,159	74,759	1,478,770
2014/15	1,112,996	39,372	148,627	127,830	77,743	1,506,567
2015/16	1,142,191	40,328	149,295	132,978	80,842	1,545,633
2016/17	1,168,271	41,333	151,638	149,636	84,092	1,594,969
2017/18	1,198,054	42,368	152,266	149,404	87,452	1,629,543
Total 2013/14 to 2017/18	**5,708,019**	**201,760**	**749,810**	**691,006**	**404,887**	**7,755,482**

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.

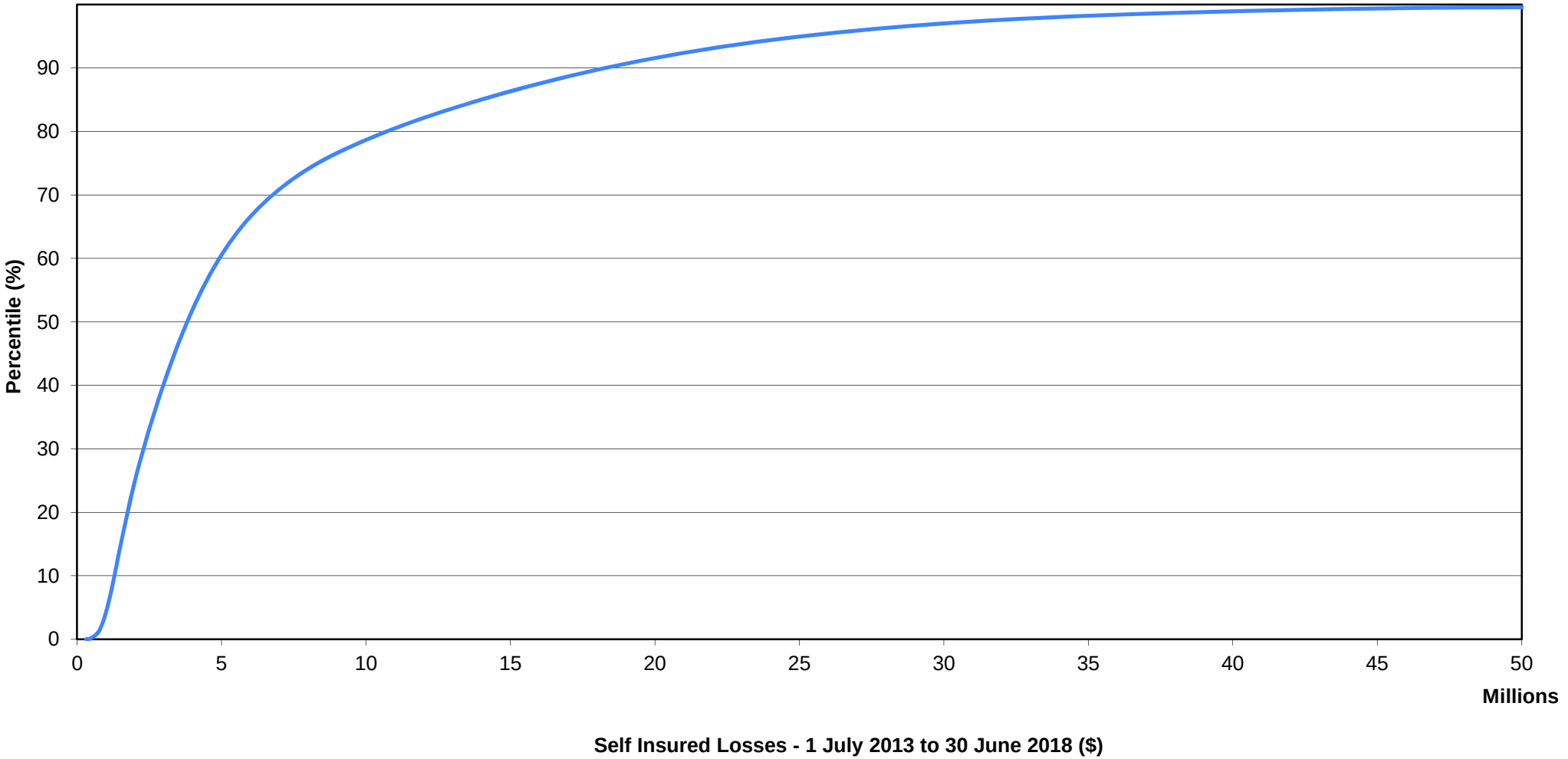
ElectraNet Pty Ltd
Self Insured Loss Forecast (1 July 2013 to 30 June 2018)

Risk Category	Mean	Standard Deviation	Median	75th Percentile	90th Percentile	95th Percentile	99th Percentile	Total
Line Failure	5,708,019	8,317,827	2,435,287	6,914,853	16,796,961	23,483,792	38,124,347	**5,708,019**
General Property Damage (Uninsured Assets)	201,760	127,493	181,048	273,272	373,579	441,252	583,690	**201,760**
Substation Machinery Breakdown	749,810	360,147	710,522	973,565	1,232,286	1,399,170	1,729,303	**749,810**
Fire Liability	691,006	23,369,838	0	0	0	0	0	**691,006**
Workers' Compensation	404,887	222,497	354,313	492,510	670,247	811,976	1,188,600	**404,887**
Total	**7,755,482**	**24,809,556**	**3,814,017**	**8,334,939**	**18,281,530**	**25,099,589**	**40,690,765**	**7,755,482**

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

Year	Mean	Standard Deviation	Median	75th Percentile	90th Percentile	95th Percentile	99th Percentile
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
2013/14 to 2017/18	**5,708,019**	**8,317,827**	**2,435,287**	**6,914,853**	**16,796,961**	**23,483,792**	**38,124,347**

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
TOTAL:		293	168	$21,000,000	125	$40,625,000	$61,625,000

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 Losses		
Number of Years	**Poles Only**	**Towers Only**	**Poles & Towers**
49 Years	6	8	3
Avg Losses Per Year	0.1224	0.1633	0.0612

Selected Distributions

Distribution	Poisson	Poisson	Poisson
Mean	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

			Poles & Towers	
	Poles Only	**Towers Only**	**(Poles)**	**(Towers)**
Distribution	Negative Binomial	Negative Binomial	Negative Binomial	Negative Binomial
s	1	2	2	1
p	0.1364	0.3636	0.0766	0.0738
Shift	1	1	5	1

Loss Experience (Number of Structures Replaced)

			Poles & Towers	
	Poles Only	**Towers Only**	**(Poles)**	**(Towers)**
Number of Structures Replaced	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**
Poles	1.00	0.75
Towers	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

Year	Mean	Standard Deviation	Median	75th Percentile	90th Percentile	95th Percentile	99th Percentile
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
2013/14 to 2017/18	**201,760**	**127,493**	**181,048**	**273,272**	**373,579**	**441,252**	**583,690**

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)

	Historic				Revalued		
Policy Year	# 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		
TOTAL:	3	$138,000	$0	$138,000		3	$145,214
(2007/08 - 2010/11)							

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
Total				**$**	**138,000**	**$**	**-**	**$**	**138,000**		**$**	**145,214**

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

Selected Distributions

Frequency Assumptions

Claim Count Summary

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

Selected Distribution

Distribution	Poisson
Mean	0.75

Severity Assumptions

Selected Distribution

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

Loss Experience (Revalued Incurred Losses)

Values
$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

Year	Mean	Standard Deviation	Median	75th Percentile	90th Percentile	95th Percentile	99th Percentile
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
2013/14 to 2017/18	**749,810**	**360,147**	**710,522**	**973,565**	**1,232,286**	**1,399,170**	**1,729,303**

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)

	Historic				Revalued Scaled				CURRENT	
									Deductible:	$100k / $250k
									Aggregate:	None
Policy Year	# 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	ElectraNet Retention	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
TOTAL:	15	$5,145,000	$0	$5,145,000			17	$6,811,392	$2,087,770	$4,723,622
(1996/97 - 2011/12)										

Qualifications and Assumptions

1. Information was provided by ElectraNet as at August 2011.
2. This analysis assumes a 'claims occurrence' wording.
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
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
Total					**$ 5,145,000**	**$ -**	**$ 5,145,000**		**$ 6,240,978**

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
Total	**1,137**	**15**	**5**	**10**
Claim Count Per 100 Substations		**1.319**	**0.440**	**0.880**

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
Distribution	Pareto 2
b	3,000,000
q	4
Truncation Limits:	
Lower Bound	20,000
Upper Bound	5,000,000

	Other
Distribution	LogNormal
Mean	220,000
Std Dev	210,000
Truncation Limits:	
Lower Bound	20,000
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. Fire Liability

Attachment 1. Self Insured Loss Forecast

Attachment 2. Frequency Analysis

Attachment 3. Severity Distribution

ElectraNet Pty Ltd
Fire Liability Self Insured Loss Forecast

Year	Mean	Standard Deviation	Median	90th Percentile	95th Percentile	99th Percentile	99.9th Percentile
2012/13	107,493	8,749,649	0	0	0	0	458,349,634
2013/14	131,159	9,818,937	0	0	0	0	569,136,843
2014/15	127,830	9,869,551	0	0	0	0	561,026,464
2015/16	132,978	10,223,434	0	0	0	0	560,922,450
2016/17	149,636	11,115,264	0	0	0	0	640,715,937
2017/18	149,404	11,164,392	0	0	0	0	634,341,531
2013/14 to 2017/18	**691,006**	**23,369,838**	**0**	**0**	**0**	**197,913,640**	**1,165,172,753**

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
Fire Liability - Frequency Assumptions

Layer ($m)	Prem ($'000)	Excess ($m)	Upper ($m)	Limit ($m)	Avg Loss ($m)	BF %	BF Prem ($'000)	Risk Prem ($'000)	Sev Dist Cum Prob (>0m) (%)	Return Period Scale Factor Base: $0m	Return Period Scale Factor Base: $150m	Return Period (yrs)	Calc Risk Prem ($'000)	Diff ($'000)
A	*B*	*C*	*D*	*E*	*F*	*G*	*H*	*I*	*J*	*K*	*L*	*M*	*N*	*O*
				D-C			*B x G*	*80% X H*		$(100\text{-}J_{n-1})^{-1}$	*K / 3.4*	*1000 x L*	$F/M_n+(E\text{-}F)/M_{n+1}$	*N-I*
Primary (50)	540.0	0	50	50	16.7	30%	162.0	129.6	45.0	1.0	0.29	220	159.1	29.5
100 x 50	150.0	50	150	100	33.3	60%	90.0	72.0	71.0	1.8	0.53	400	172.2	100.2
75 x 150	60.0	150	225	75	37.5	100%	60.0	48.0	79.0	3.4	1.0	750	87.5	39.5
50 x 225	47.5	225	275	50	25.0	100%	47.5	38.0	82.0	4.8	1.4	1,000	45.8	7.8
75 x 275	67.5	275	350	75	37.5	100%	67.5	54.0	86.0	5.6	1.6	1,200	56.3	2.3
50 x 350	45.0	350	400	50	25.0	100%	45.0	36.0	87.5	7.1	2.0	1,500	31.4	-4.6
100 x 400	60.0	400	500	100	50.0	100%	60.0	48.0	90.0	8.0	2.3	1,700	52.1	4.1
110 x 500	88.0	500	610	110	55.0	100%	88.0	70.4	92.0	10.0	2.9	2,200	44.6	-25.8
50 x 610	47.5	610	660	50	25.0	100%	47.5	38.0	93.0	12.5	3.7	2,800	17.0	-21.0
50 x 660	45.0	660	710	50	25.0	100%	45.0	36.0	93.5	14.3	4.1	3,100	15.4	-20.6
40 x 710	34.0	710	750	40	20.0	100%	34.0	27.2	94.0	15.4	4.5	3,400	11.3	-15.9
50 x 750	37.5	750	800	50	25.0	100%	37.5	30.0	94.5	16.7	4.9	3,700	13.2	-16.8
1,200 x 800				Not Insured						18.2	5.3	3,900		
Total (150 to 800)								**425.6**					**374.6**	**-51.0**
Total (0 to 800)								**627.2**					**705.9**	**78.7**

Notes:

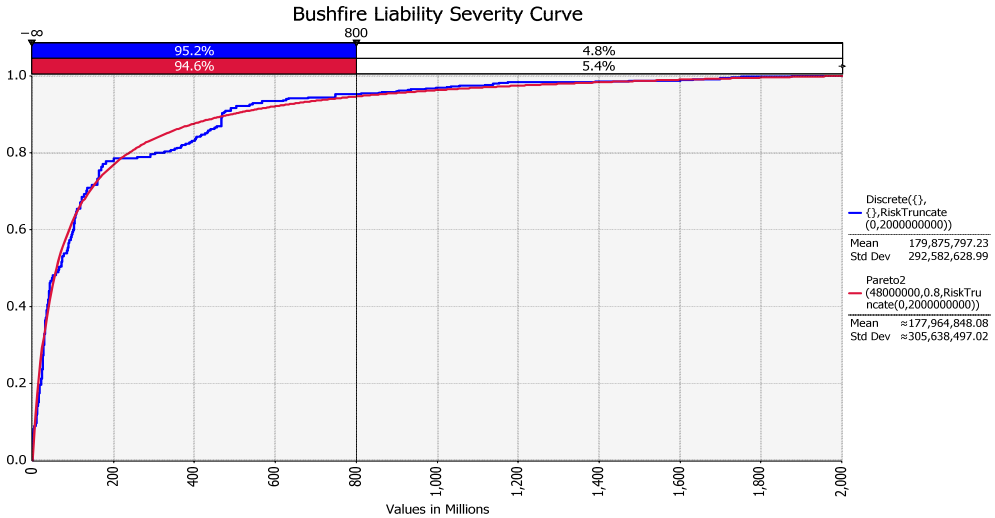
1. The premium (column B) is for all liability risks. It is assumed that non-bushfire liability risks are confined to the first $150m. As such, the % of the premium that relates to bushfire liability risk within the first $150m is difficult to estimate, and therefore cannot be relied on. Column G provides an indication of that percentage.
2. Avg Loss (column F) is the average loss amount if a claim is paid within the layer, but does not exceed the layer. It is assumed to be half of the limit for each layer, except the primary layer and the first excess layer (one third of the limit), due to the shape of the severity curve.
3. The risk premium (column I) is assumed to be 80% of the actual premium, with the remaining 20% considered to cover the risk margin, cost of capital, expenses and profits.
4. The cumulative probabilities (column J) are based on the selected severity curve.
5. The return period scale factor (column L) is scaled around the $150m return period.
6. The subscript n refers to the value in that row. Similarly, subscript n-1 refers to the value in the row above etc.
7. A return period of 750 years for a loss value of $150m was selected on the basis that it provided the closest calculated risk premium (column N) to the actual risk premium (column I).
8. It is expected that the calculated risk premium (column N) is greater than the actual risk premium (column I) for lower layers and less than the actual risk premium for higher layers (see column O). In order to achieve cover for $800m, numerous insurers are required to provide capacity at different layers. Each insurer would view the risk differently. Insurers that view the risk as low will price it lower, and these insurers will be utilised first at lower layers where the premium pool is greater. Likewise, insurers that view the risk as high will price it higher, and these insurers will be utlised last at higher layers where the premium pool is lower. This will achieve the most efficient pricing of the insurance program. Across the board, the program pricing provided by the panel of insurers should provide us with a reasonable indiciation of their expected frequency of paying a loss within their layer.
9. The selected return period for a bushfire liability claim is 220 years, or a probability of 0.00455.

ElectraNet Pty Ltd
Fire Liability - Severity Assumptions

Damage Class		Line Length	
Lower ($m)	Upper ($m)	(km)	% Line Length
0	5	372	8.8%
5	25	687	16.3%
25	100	1,473	35.0%
100	250	781	18.5%
250	500	549	13.0%
500	600	76	1.8%
600	700	41	1.0%
700	800	34	0.8%
800	900	31	0.7%
900	1,000	38	0.9%
1,000	2,000	132	3.1%
TOTAL		**4,214**	**100.0%**

Source: 'Potential harm from fire starts near electricity transmission lines in South Australia' report - Table 9.

Fitted Distribution - Selected (red) against sample data (blue).



Selected Severity Distribution

Distribution	Pareto 2
b	48,000,000
q	0.8
Truncation Limits:	
Lower Bound	0
Upper Bound	2,000,000,000

Appendix 6. 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

Year	Mean	Standard Deviation	Median	75th Percentile	90th Percentile	95th Percentile	99th Percentile
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
2013/14 to 2017/18	**404,887**	**222,497**	**354,313**	**492,510**	**670,247**	**811,976**	**1,188,600**

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
TOTAL:	30	$248,302	$248,302	$335,750
(2001 - 2010)				
STD DEV:	2.3	$59,864	$59,864	$84,602
(2001 - 2010)				
		Standard Deviation (as a rate of remuneration):		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,

Laurie Brett

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

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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.

Laurie Brett

L C Brett
Fellow of the Institute of Actuaries of Australia

8 September 2011

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BRETT & WATSON PTY. LTD.
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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

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(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:-

Section		Contents	Page
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
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A	:	Claims data supplied.	12
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C	:	Average claim size for reported claims.	14
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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	32
	32
Plus: 8% for administration expenses	3
Estimated outstanding liability	35

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	$ 24,000
	$ 79,000
Plus 100%	$ 79,000
	$ 158,000

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	33
	33
Plus: 8% for administration expenses	3
Estimated outstanding liability	36

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
	32
Plus: 8% for administration expenses	3
Estimated outstanding liability	35

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
	$ 79,000
Plus 100%	$ 79,000
	$158,000

Subject to a minimum of $750,000.

7. Conclusions

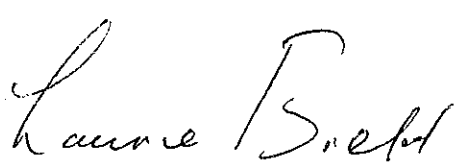
7.1 The net outstanding liability as at 30 June 2011 is estimated to be **$35,000**.

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,



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^	Amount Paid to 30.06.2011 $	Outstanding Estimates $	Number of Claims^	Amount Paid to 30.06.2011 $	Number of Claims^	Amount Paid to 30.06.2011 $	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
Total	**0**	**0**	**0**	**54**	**428,364**	**54**	**428,364**	**0**

^ 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		24,252
1996	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				38,966
1998	86	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
2000	2,717	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								200,799
2002	1,042	0	0	0	0	0	0	0	0	0									1,042
2003	4,289	82	57	169	0	0	0	0	0										4,597
2004	327	123	0	0	0	0	0	0											450
2005	1,922	1,126	0	0	0	0	0												3,048
2006	198	0	0	0	0	0													198
2007	950	0	0	0	310														1,260
2008	970	0	16,463	15,466															32,899
2009	607	0	0																607
2010	1,317	125																	1,442
2011	1,960																		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^	Reported Incurred Cost #	Average Reported Claim Size	Average Claim Size Current Dollars
		$000	$	$
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
All	**54**	**427**		**13,299**
to 31/10/2000	**25**	**179**		**15,301**
from 01/11/2000	**29**	**248**		**11,573**

^ Excludes claims closed for no cost

\# 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^	Reported Incurred Cost #	Average Reported Claim Size	Average Claim Size Current Dollars
		$000	$	$
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
All	**53**	**227**		**8,213**
to 31/10/2000	**25**	**179**		**15,301**
from 01/11/2000	**28**	**48**		**1,870**

^ 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 7. 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 8. Insurance Program Summary

About Aon

Aon Corporation (NYSE: AON) is the leading global provider of risk management services, insurance and reinsurance brokerage, and human capital consulting. Through its more than 59,000 colleagues worldwide, Aon delivers distinctive client value via innovative and effective risk management and workforce productivity solutions. Aon's industry-leading global resources and technical expertise are delivered locally through more than 500 offices in more than 120 countries. Named the world's best broker by Euromoney magazine's 2008, 2009 and 2010 Insurance Survey, Aon also ranked highest on Business Insurance's listing of the world's largest insurance brokers based on commercial retail, wholesale, reinsurance and personal lines brokerage revenues in 2008 and 2009. A.M. Best deemed Aon the number one insurance broker based on brokerage revenues in 2007, 2008 and 2009 and Aon was voted best insurance intermediary, best reinsurance intermediary and best employee benefits consulting firm in 2007, 2008 and 2009 by the readers of Business Insurance. For more information on Aon, log onto aon.com.