Appendix K

Self Insurance Risk Quantification

SOLUTIONS
FOR COMPLEX RISK

ElectraNet Pty Limited

Self Insurance Risk Quantification

February 2007

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Section 1. Executive Summary

1.1 Purpose of Report

The purpose of this report is to assist ElectraNet SA ("ElectraNet") in quantifying their current and future potential self insured losses. This calculation of losses will be used to support the ElectraNet revenue proposal submitted to the Australian Energy Regulator in respect of the period 1 July 2008 to 30 June 2013.

1.2 Categories of Risk Analysed

The categories of risks considered were Property, Liability, Bushfire, Network Self Insurance, Substation (Machinery Breakdown) and Line Failures.

1.3 Methodology

- The risk information was obtained from ElectraNet actual loss history and risk register that was augmented by advice David Johnson and members of the Reset Team in order to provide a reasonable estimation of the types of losses that ElectraNet may experience in the future.

- Quantitative techniques were applied to this risk information to obtain frequency and severity factors for each of the four categories of risk.

- These factors were then simulated using risk modelling software *("@RISK")* to obtain combined simulated distribution parameters including mean, minimum, maximum and standard deviation.

- A complete list of Qualifications and Assumptions used during this project are supplied in the appendices to this report.

1.4 Results

The summary table below outlines the overall results of the self insurance risk quantification. This table shows both average (mean) and 1 in 10 year high results. The 1 in 10 year high numbers are calculated at a greater confidence level and give an indication of how large the retained losses could be in a more severe year. Further details can be found in the following sections of this report.

Simulation	All Below Deductible Losses Mean	All Below Deductible Losses 1 in 10 year high	Below Deductible Losses Above $20k Mean	Below Deductible Losses Above $20k 1 in 10 year high
Based on Historical Losses	$1,303,015	$1,774,213	$1,043,937	$1,488,168
Including Additional Loss Scenarios	$1,827,512	$1,823,867	$1,556,463	$1,540,268

Section 2.   Introduction

2.1 Engagement Objectives

Aon Risk Services was engaged by ElectraNet to quantify ElectraNet's estimated level of self insured losses for all of its business risks.

These self insured losses consisted of:

- o   Insurable risks below the existing insurance deductibles; and

- o   Other self insured risks that had a material contribution to the expected losses and a reasonable likelihood of occurrence.

The key objectives of this review were:

- o   To analyse and quantify the two risk categories outlined above;

- o   To estimate the likelihood (loss frequency) and consequence (loss severity) of the risks under consideration; and

- o   To quantify an annual central estimate that can be consolidated with ElectraNet's other fixed operating costs to determine the total expenses for the organisation for a typical operating year.

2.2 Methodology

Hadyn Hewitt and Ross Ivey visited David Johnston at ElectraNet on Wednesday 17 January 2007 to discuss the project. During this visit an understanding of the self insured losses of ElectraNet was sought and obtained. This includes both the under deductible portion of insured losses and the risks that ElectraNet fully retain within the business. Additional discussions were held with members of the reset team, which were used to further determine ElectraNet's requirements for the quantification of self insured risks in relation to their revenue submission to the Australian Energy Regulator.

Following the site visit Aon Risk Services received loss information in respect of the following areas:

- o   Property

- o   Liability

- o   Bushfire

- o   Network Self Insurance

- o   Substation (Machinery Breakdown)

- o   Line Failures

Further information obtained centred around the risk register of ElectraNet. The consequence and likelihood of events relating to the self insured risks of ElectraNet were used to supplement the historical losses. This allows for the loss estimates calculated to cater for more extreme events that have yet to occur, but which have a possibility of occurring over a longer period of time (ie. a 1 in 50 year event).

Aon Risk Services then applied quantitative techniques to obtain frequency and severity factors for each of the risk categories. These factors were then simulated using risk modelling software ("@RISK") to obtain combined simulated distribution parameters including mean, minimum, maximum and standard deviation.

Two sets of analysis were performed. The first assessed only the historical losses of ElectraNet, with the second analysis taking into account the additional loss scenarios sourced from the risk register.

A complete list of Qualifications and Assumptions used during this project are supplied in the appendices to this report.

2.3 Disclaimers

- ***Use of this report –*** This report is intended solely for the use of ElectraNet (and the Australian Energy Regulator for the purposes of ElectraNet's revenue submission) and should not be made available to any third parties without the prior consent of Aon Risk Services.

- In forming its opinion, Aon Risk Services has relied on information provided by ElectraNet without independently verifying it. Aon Risk Services did not perform an independent risk review of ElectraNet.

- 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.

Section 3.   Property Risks

3.1 Overview

The purpose of this section was to characterise the property risk landscape with an overall frequency and severity distribution. This was calculated by combining:

- ElectraNet's actual loss history for insured property risks; and

- Other property losses from ElectraNet's risk register that had a material contribution to the expected losses and a reasonable likelihood of occurrence.

A complete list of Historical losses, Other Losses and Qualifications and Assumptions used during this exercise is supplied in Appendix 1.

3.2 Historical Losses

Historical property losses were analysed from 1999 to 2006 and include:

- Vandalism;

- Plant Failure;

- Lightning;

- Theft; and

- Storm Damage.

Over the 7 years of loss history, there were 27 incidents totalling $2,074,894 (revalued for inflation). A simulation was performed on these losses which resulted in average expected losses per year of $363,048. When overlaying the current insurance program ($100k deductible per loss), ElectraNet is expected to retain $86,464 of these losses per year. If all losses below $20k were removed, then the self insurance retention would be $80,629 in an average year. Refer Section 3.4 and Appendix 1. – Attachment 4. for results and outputs.

3.3 Other Losses Not Experienced but added to the Risk Landscape

Other losses not experienced but added to likely property losses included:

- Multiple Asset Damage as a result of Earthquake;

- The Total Loss of a Major Asset as a result of Fire;

- Control Room Vandalism; and

- Environmental Contamination Clean Up.

These four loss types were assigned an average frequency per year and an estimated consequence value based on the risk register of ElectraNet.

Average Frequency of losses (per year)	1 in 'x' Year High	Type of Loss	Likely Incurred	Notes
0.002	1 in 500 years	Total loss of major asset - Earthquake	$30,000,000	Estimate from risk register for earthquake consequence
0.02	1 in 50 years	Total loss of major asset - Fire	$20,000,000	Loss of Major Substation or East Terrace Complex
0.05	1 in 20 years	Control room vandalised	$2,000,000	Estimate from risk register for vandalism consequence
0.05	1 in 20 years	Clean up costs for environmental contamination	$2,000,000	Offsite Oil Discharge

The addition of these losses resulted in the average property retentions of ElectraNet increasing to $99,492 per year ($87,574 when excluding all losses below $20k). Refer Appendix 1 – Attachment 7 for outputs.

3.4 Final Results for Property Losses

The final results in respect of Property losses can be seen below.

Property Losses Simulated	Gross Loss Uninsured	ElectraNet Retained $100k deductible	ElectraNet Retained (excl claims < $20k)
Historical	$363,048	$86,464	$80,629
Historical and Other	$896,153	$99,492	$87,574

Section 4   Liability Risks (Excluding Bushfire)

4.1 Overview

The purpose of this section was to characterise the liability risk landscape with an overall frequency and severity distribution. This was calculated by combining:

- ElectraNet's actual loss history for insured liability risks; and

- Other liability losses from ElectraNet's risk register that had a material contribution to the expected losses and a reasonable likelihood of occurrence.

A complete list of Historical losses, Other Losses and Qualifications and Assumptions used during this exercise is supplied in Appendix 2. Note that Bushfire losses have been separated from the more general liability losses and are discussed in Section 5.

4.2 Historical Losses

Historical liability losses were analysed from 1998 to 2006 and include:

- Blackouts; and

- Crop / Stock Damage.

Over the 9 years of loss history there were 21 incidents totalling $321,161 (revalued for inflation and developed for unexpected movements in claim amounts). As the loss data appeared to be more comprehensive post 2003, only losses after this time were used in the simulation process. The average liability loss is expected to be $115,514 per year and when the current insurance deductible ($25k per loss) is applied ElectraNet retained costs are expected to be an average of $25,190 per year. If losses below $20k are excluded then the average retention per year by ElectraNet would be $17,981.   Refer Section 4.4 and Appendix 2 – Attachment 4 for results and outputs.

4.3 Other Losses Not Experienced but added to the Risk Landscape

Other losses not experienced but added to likely liability losses included:

- Failure to Supply – Loss of Interconnector;

- Failure to Supply – Significant Network Operation; and

- Failure to Supply – Security of Supply to CBD.

These three loss types were assigned an average frequency per year and an estimated consequence value based on the risk register of ElectraNet.

Average Frequency of losses (per year)	1 in 'x' Year High	Type of Loss	Likely Incurred	Notes
0.02	1 in 50 years	Failure to Supply	$10,000,000	Loss of Interconnector
0.05	1 in 20 years	Failure to Supply	$27,000,000	Significant Network Operation (ETSA contract limits exposure to $1m)
0.01	1 in 100 years	Failure to Supply	$112,000,000	Security of Supply - CBD

The addition of these losses resulted in the average liability retentions of ElectraNet increasing to $35,759 per year ($22,661 when excluding all losses below $20k). Refer Appendix 2 – Attachment 7 for outputs.

4.4 Final Results for Liability Losses

The final results in respect of Liability losses can be seen below.

Liability Losses Simulated	Gross Loss Uninsured	ElectraNet Retained $25k deductible	ElectraNet Retained (excl claims < $20k)
Historical	$115,514	$25,190	$17,981
Historical and Other	$2,185,323	$35,759	$22,661

Section 5   Bushfire Risks

5.1 Overview

The purpose of this section was to characterise the Bushfire liability risk landscape with an overall frequency and severity distribution. This was calculated by analysing:

- ElectraNet's actual loss history for insured Bushfire liability risks; and

- Other Bushfire losses from ElectraNet's risk database that had a material contribution to the expected losses and a reasonable likelihood of occurrence.

A complete list of Historical losses and Qualifications and Assumptions used during this exercise is supplied in Appendix 3.

5.2 Historical Losses

Historically ElectraNet only has a record of one bushfire loss ($52,228 in 1989) in the 24 year period of 1983 to 2007. Therefore based on the current historical experience of ElectraNet this is a claims frequency of 0.0417 claims per year. This frequency, combined with the current insurance deductible of $25k per claim was used to derive a simulation model for bushfire risk. As the claim experienced by ElectraNet was well short of its current insured limit of $400m, losses above the limit were not considered for the analysis of historical claims.

The average expected bushfire loss to be retained by ElectraNet is $1,018 per year (ie. approximately $25k deductible divided by 24 years).

5.3 Other Losses Not Experienced but added to the Risk Landscape

Other losses not experienced by ElectraNet to date were able to be derived using outputs from two reports that have been previously been produced for ElectraNet:

- '*Values threatened by bushfires near ElectraNet SA transmission lines*' produced by John Field Consulting Pty Ltd in July 2003

- '*Values threatened by bushfires near the SA electricity transmission network*' produced by the CSIRO in November 2000.

These reports provided statistics on the values threatened by each transmission line and the probability of a fire starting. As the values threatened by bushfire range up to $1b, a bushfire loss that breaches the $400m limit was also considered as part of this analysis.

The simulation using the parameters for values threatened and bushfire probabilities resulted in an average expected loss of $501,920 per year. It is important to keep in mind that this average loss is largely the result of lower probability losses in excess of the $400m limit that would be retained by ElectraNet. The likelihood of a loss greater than $400m was deemed to be a 1 in 1,000 year event. Refer Section 5.4 and Appendix 3 – Attachment 1 for full results and outputs.

5.4 Final Results for Bushfire Losses

The final results in respect of Bushfire losses can be seen below.

Bushfire Losses Simulated	ElectraNet Retained $25k Deductible
Historical Frequency	$1,018
CSIRO Frequency	$501,920

Section 6   Network Self Insurance Risks

6.1 Overview

The purpose of this section was to characterise the Network Self Insurance risk landscape with an overall frequency and severity distribution. This was calculated using ElectraNet's actual loss history, which captures Repairs and Maintenance type losses that fall below insurance deductible levels. .   As the Network Self Insurance losses are the smaller 'below insurance deductible' type losses, no further loss scenarios have been considered.

A complete list of Historical losses and Qualifications and Assumptions used during this exercise is supplied in Appendix 4.

6.2 Historical Losses

Over the 17 years of loss history there were 524 incidents totalling $699,333 (revalued for inflation). As the loss data appeared to be more comprehensive post 2004, only losses after this time were used in the simulation process. Network Self Insurance losses are expected to average $326,034 per year and when the current insurance deductible ($100k per loss – assuming the property deductible is applicable) is applied ElectraNet retained costs are expected to average $300,228 per year. If losses below $20k are excluded then the average retention per year by ElectraNet would be $54,195.

6.3 Final Results for Network Self Insurance Losses

The final results in respect of Network Self Insurance losses can be seen below.

Network Self Insurance Losses Simulated	Gross Loss Uninsured	ElectraNet Retained $100k deductible	ElectraNet Retained (excl claims < $20k)
Historical	$326,034	$300,228	$54,195

Section 7 Substation (Machinery Breakdown) Risks

7.1 Overview

The purpose of this section was to characterise the Substation (Machinery Breakdown) risk landscape with an overall frequency and severity distribution. Specifically this section is looking at Machinery Breakdown type losses that occur at substations which are self insured by ElectraNet. As the larger Substation losses are likely to be material damage type losses and already considered in Property Risks (Section 3), no further loss scenarios have been considered for this risk.

A complete list of Historical losses and Qualifications and Assumptions used during this exercise is supplied in Appendix 5.

7.2 Historical Losses

Over the 7 years of loss history there were 4 incidents totalling $770,000. The average Substation (Machinery Breakdown) loss is expected to be $128,468 per year. As machinery breakdown losses are self insured the full amount of this expected loss would be retained by ElectraNet.

7.3 Final Results for Line Failure Losses

The final results in respect of Line Failure Losses can be seen below.

Substation (Machinery Breakdown) Losses Simulated	Gross Loss Uninsured	ElectraNet Retained Self Insured
Historical	$128,468	$128,468

Section 8 Line Failures

8.1 Overview

The purpose of this section was to characterise the line failures risk landscape with an overall frequency and severity distribution. This was calculated using ElectraNet's actual loss history for insured liability risks. As the line failure loss data provided contained a range of losses over a long period of time, no further loss scenarios have been considered.

A complete list of Historical losses and Qualifications and Assumptions used during this exercise are supplied in Appendix 6.

8.2 Historical Losses

A list of line failure losses was supplied by ElectraNet that contained the number of poles and towers damaged in incidents ranging back to 1962. Although this loss history did not contain loss amounts these were able to be estimated using a current replacement cost of $50k per pole and $150k per tower.

Over the 44 years of loss history there were 15 incidents totalling $26,400,000 (estimated current replacement cost). Line Failure losses are expected to average $761,645 per year. As transmission line and support structures are self insured the full amount of this expected loss would be retained by ElectraNet.

8.3 Final Results for Line Failure Losses

The final results in respect of Line Failure Losses can be seen below.

Line Failure Losses Simulated	Gross Loss Uninsured	ElectraNet Retained Self Insured
Historical	$761,645	$761,645

Section 9   Simulation and Results

9.1 Overview

After all of the individual risks had been analysed, we then combined the results to produce an estimated overall self insurance cost retained by ElectraNet in an average year. During this process it is also possible to calculate these self retained losses to a higher degree of confidence. Average losses indicate what is likely to average out over a period of time, but do not give an indication of losses in a particularly severe year. In order to allow ElectraNet to consider their funding requirements for one of these severe loss years we have also measured to the 75%, 90%, 95% and 99% confidence levels. These can be directly associated with a '1 in 4 year' high (75%), a '1 in 10 year' high (90%), a '1 in 20 year' high (95%) and a '1 in 100 year' high (99%). Full results and assumptions for the combined simulation can be found in Appendix 7.

As per the assessment of individual risks, two sets of analysis have been completed:

1. Self retained losses based on historical claims only

2. Self retained losses based on historical claims **and** additional loss scenarios

For individual risks where additional loss scenarios were not considered the simulation results derived from historical claims only has been used to calculate totals in both sets of analysis

9.2 Historical Claims Analysis

The table below contains an overall summary of self retained losses that could be expected by ElectraNet in an average year based on the historical claims. Amounts in the far right column exclude claims below $20k that are typically included as general operating expenses.

Risk Class	ElectraNet Average Retained Self Insured / Below Deductible	ElectraNet Average Retained (Excluding <$20K)
Property	$86,464	$80,629
Liability	$25,190	$17,981
Bushfire	$1,018	$1,018
Network Self Insurance	$300,228	$54,195
Substation	$128,468	$128,468
Line Failures	$761,645	$761,645
TOTAL	**$1,303,013**	**$1,043,936**

For more severe years, the overall losses could be expected to behave as shown in the following table.

Retained Costs	Expected Average Retention	Expected '1 in 4 year' high	Expected '1 in 10 year' high	Expected '1 in 20 year' high	Expected '1 in 100 year' high
Self Insured / Below Deductible	$1,303,015	$889,856	$1,774,213	$2,968,840	$10,687,342
Excluding losses less than $20k	$1,043,937	$579,382	$1,488,168	$2,705,335	$10,414,723

Note: Due to rounding the overall totals may differ slightly from the sum of the individual risks.

9.3 Other Losses Not Experienced but added to the Risk Landscape

The table below contains an overall summary of self retained losses that could be expected by ElectraNet in an average year based on the historical claims **and** additional loss scenarios that have been considered for particular risk classes. Amounts in the far right column exclude claims below $20k that are typically included as general operating expenses.

Risk Class	ElectraNet Average Retained Self Insured / Below Deductible	ElectraNet Average Retained (Excluding <$20K)
Property	$99,492	$87,574
Liability	$35,759	$22,661
Bushfire	$501,920	$501,920
Network Self Insurance	$300,228	$54,195
Substation	$128,468	$128,468
Line Failures	$761,645	$761,645
TOTAL	**$1,827,512**	**$1,556,463**

For more severe years, the overall losses could be expected to behave as shown in the following table.

Retained Costs	Expected Average Retention	Expected '1 in 4 year' high	Expected '1 in 10 year' high	Expected '1 in 20 year' high	Expected '1 in 100 year' high
Self Insured / Below Deductible	$1,827,512	$918,597	$1,823,867	$3,131,938	$12,499,315
Excluding losses less than $20k	$1,556,463	$590,003	$1,540,268	$2,865,368	$12,256,027

Note: Due to rounding the overall totals may differ slightly from the sum of the individual risks.

9.4 Final Results

The summary table below outlines the overall results of the self insurance risk quantification. This table shows both average (mean) and 1 in 10 year high results. The 1 in 10 year high numbers are calculated at a greater confidence level and give an indication of how large the retained losses could be in a more severe year. Further details can be found in the following sections of this report.

Simulation	All Below Deductible Losses Mean	All Below Deductible Losses 1 in 10 year high	Below Deductible Losses Above $20k Mean	Below Deductible Losses Above $20k 1 in 10 year high
Based on Historical Losses	$1,303,015	$1,774,213	$1,043,937	$1,488,168
Including Additional Loss Scenarios	$1,827,512	$1,823,867	$1,556,463	$1,540,268

9.5 Indexation of Final Results

The calculation of ElectraNet's self insurance costs has essentially been based upon the asset size of the business in place at the beginning of the 2006/07 policy year. Therefore in order to incorporate the ElectraNet's growth during the period 1 July 2008 to 30 June 2013, it would be appropriate to apply indexation factors derived from planned asset growth in each year. This indexation of losses to accommodate asset growth is only relevant to the mean loss results and not the '1 in x year high' percentile losses.

Growth in each of the risk classes assessed would best be determined on the following basis:

- Property losses growth is proportional to total asset growth;

- Liability losses growth is proportional to total asset growth;

- Bushfire losses growth is proportional to lines asset growth;

- Network self insurance losses growth is proportional to total asset growth;

- Substation (machinery breakdown) losses growth is proportional to the cumulative subs and comms and sec sys asset growth; and

- Line failure losses growth is proportional to lines asset growth.

By way of example, the mean losses (including additional scenarios) for bushfire risk is $761,645. If in the next year the line assets of ElectraNet were expected to grow by 2.5%, then the expected loss for this year would be revised to $780,686. Further increases to assets in the following years would be cumulative ie. an additional 2.5% increase in the second year would be based off the revised $780,686 (totalling $800,203).

Appendix 1 – Property Risk Loss Modelling

Attachment 1   Claims Summary – As-If Analysis

Attachment 2   Loss History Graph

Attachment 3   Loss Bandings Graph

Attachment 4   Loss Forecasts – Based On Historical Claims

Attachment 5   Individual Historical Claims Listing

Attachment 6   Additional Risk Added To Loss Scenario

Attachment 7   Loss Forecasts – Based on Historical and Additional Loss Scenarios

ElectraNet Pty Limited
Non-Network Incidents - Property Loss Analysis Table
Statistical Loss Summary
(NOT USING DEVELOPMENT FACTORS)

						CURRENT	
						Operating Expense Threshold:	$20,000
						Insurance Deductible:	$100,000
						Insurance Aggregate:	None

Policy Year	Historic Paid Losses	Historic Outstanding Losses	Historic Gross Losses	# Non-Zero Gross Losses	Percentage of Losses Open	CPI Revaluation Factor	Revalued Gross Losses	Operating Expense Retention	Self Insurance Retention	Insurer Retention
1999/00	$435,355	$0	$435,355	4	0%	1.25	$542,943	$13,718	$300,000	$229,224
2000/01	$1,234,350	$0	$1,234,350	9	0%	1.21	$1,497,586	$21,050	$220,625	$1,255,911
2001/02	$1,000	$0	$1,000	1	0%	1.14	$1,145	$1,145	$0	$0
2002/03	$22,720	$1,000	$23,720	4	25%	1.11	$26,265	$1,801	$24,464	$0
2003/04	$1,050	$0	$1,050	3	0%	1.08	$1,129	$1,129	$0	$0
2004/05	$805	$2,400	$3,205	2	50%	1.05	$3,248	$3,248	$0	$0
2005/06	$2,504	$0	$2,504	4	0%	1.03	$2,579	$2,579	$0	$0
2006/07	$0	$0	$0	0	0%	1.00	$0	$0	$0	$0
TOTAL: (1999/00 - 2006/07)	$1,697,784	$3,400	$1,701,184	27			$2,074,894	$44,670	$545,090	$1,485,135
AVERAGE: (1999/00 - 2005/06)	$242,541	$486	$243,026	3.86			$296,413	$6,381	$77,870	$212,162
STD DEV: (1999/00 - 2005/06)	$465,814	$923	$465,529	2.54			$566,162	$7,845	$127,035	$468,111

Qualifications and Assumptions

1. Information was provided by ElectraNet as at February 2007.
2. Incurred losses have been revalued to 2006 values using a Consumer Price Index Inflation Model.
3. The policy year has been assumed to run to June 30 for all historic years.
4. For the purpose of this exercise no loss development factors (IBNER or IBNR) have been applied to losses.
5. This analysis assumes a 'claims occurrence' wording.
6. All values are in A$ Dollars.

ElectraNet Pty Limited
Non-Network Incidents - Property Loss Analysis
Based on the 'Current' Program on an 'As-If' Basis.

Legend:
- Operating Expense Retention
- Self Insurance Retention
- Insurer Retention
- # Losses

X-axis (Policy Year): 1999/00, 2000/01, 2001/02, 2002/03, 2003/04, 2004/05, 2005/06, 2006/07

Left Y-axis (Revalued Scaled Losses, Thousands): $0, $200, $400, $600, $800, $1,000, $1,200, $1,400, $1,600

Right Y-axis (Number of Non-Zero Losses): 0 through 10
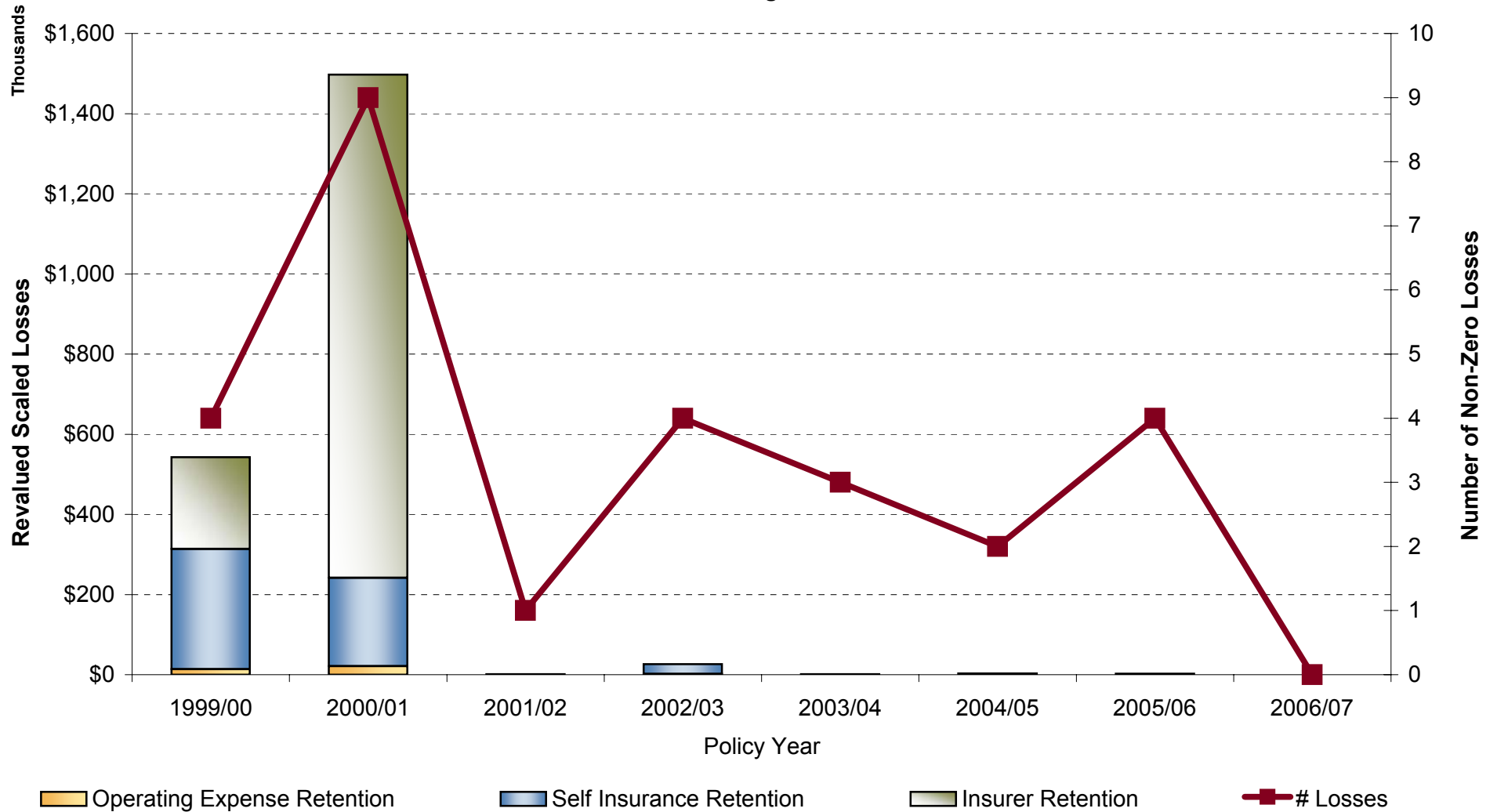
ElectraNet Pty Limited
Non-Network Incidents - Property Revalued Gross Loss Bandings
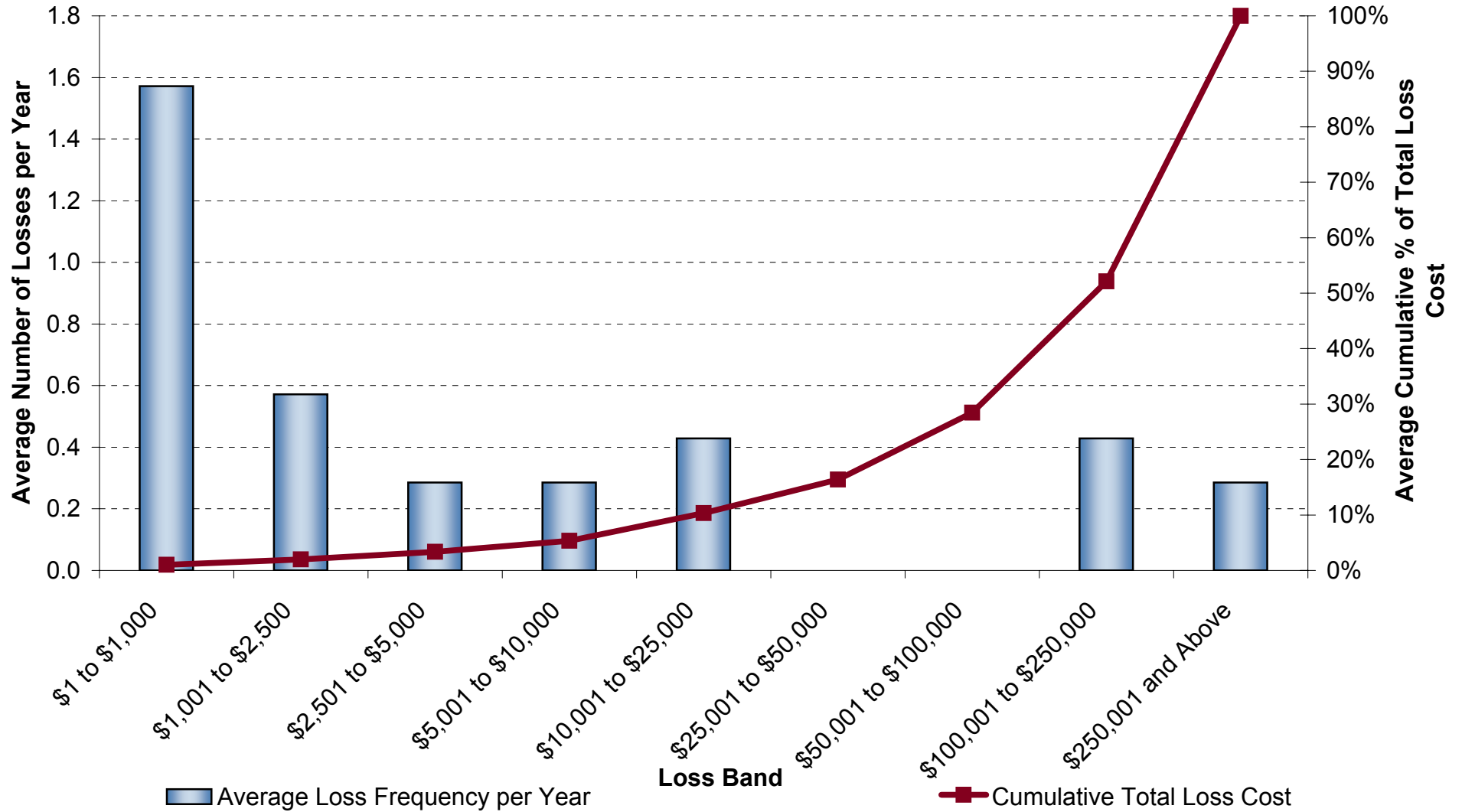
ElectraNet Pty Limited Property Gross Loss Forecasts
Statistical Parameters For Aggregate Retained Losses
Based on Historical Losses Only

Below Deductible Losses

Retention Level	Mean (Average)	Volatility (St.Deviation)	Median	1 in 4 Year "High"	1 in 10 Year "High"	1 in 20 Year "High"	1 in 100 Year "High"
$ 100,000	$ 86,464	$ 91,294	$ 73,447	$ 126,816	$ 207,908	$ 266,287	$ 363,190
Self Insured	$ 363,048	$ 1,487,968	$ 73,447	$ 330,344	$ 829,302	$ 1,345,941	$ 3,949,737

Excluding Losses less than $20k

Retention Level	Mean (Average)	Volatility (St.Deviation)	Median	1 in 4 Year "High"	1 in 10 Year "High"	1 in 20 Year "High"	1 in 100 Year "High"
$ 100,000	$ 80,629	$ 90,433	$ 66,953	$ 121,477	$ 200,000	$ 258,504	$ 357,789

Qualifications and Assumptions

1. Forecasts are based on a Normal distribution for loss frequency with the following parameters (Mean = 3.9 & Standard Deviation = 2.5).
2. Forecasts use two optimised distributions for the lower (bottom 70.4%) and higher (top 29.6%) claim severities.
3. Loss severities below 70.4% were modelled using a Log-logistic distribution with the following parameters (Gamma = 0.0, Beta = 865.0 & Alpha = 2, Maximum Loss =$6,066).
4. Loss severities above 70.4% were modelled using a Pearson VI distribution with the following parameters (Alpha 1 = 0.8, Alpha 2 = 1.7 & Beta = 252,946, Shift =$6,066).
5. These loss distribution parameters are based on historic ElectraNet Pty Limited claims.
6. Information provided by ElectraNet as at February 2007.

ElectraNet Property Risk
Other Losses Not Experienced but added to Landscape

Average Frequency of losses (per year)	1 in 'x' Year High	Type of Loss	Likely Incurred	Notes
0.002	1 in 500 years	Total loss of major asset - Earthquake	$30,000,000	Estimate from risk register for earthquake consequence
0.02	1 in 50 years	Total loss of major asset - Fire	$20,000,000	Loss of Major Substation or East Terrace Complex
0.05	1 in 20 years	Control room vandalised	$2,000,000	Estimate from risk register for vandalism consequence
0.05	1 in 20 years	Clean up costs for environmental contamination	$2,000,000	Offsite Oil Discharge

ElectraNet Pty Limited Property Gross Loss Forecasts
Statistical Parameters For Aggregate Retained Losses
Including Historical Losses and Additional Loss Scenarios

Below Deductible Losses

Retention Level	Mean (Average)	Volatility (St.Deviation)	Median	1 in 4 Year "High"	1 in 10 Year "High"	1 in 20 Year "High"	1 in 100 Year "High"
$ 100,000	$ 99,492	$ 93,583	$ 88,524	$ 150,019	$ 228,786	$ 279,807	$ 378,730
Self Insured	$ 896,153	$ 2,854,958	$ 88,524	$ 437,711	$ 1,950,930	$ 4,518,252	$ 14,182,677

Excluding Losses less than $20k

Retention Level	Mean (Average)	Volatility (St.Deviation)	Median	1 in 4 Year "High"	1 in 10 Year "High"	1 in 20 Year "High"	1 in 100 Year "High"
$ 100,000	$ 87,574	$ 91,356	$ 74,899	$ 134,569	$ 206,508	$ 266,065	$ 362,040

Qualifications and Assumptions

1. Forecasts are based on a Normal distribution for loss frequency with the following parameters (Mean = 3.9 & Standard Deviation = 2.5).

2. Forecasts use two optimised distributions for the lower (bottom 96.5%) and higher (top 3.5%) claim severities.

3. Loss severities below 96.5% were modelled using a Log Normal distribution with the following parameters (Mean = 85,111, Std Dev = 1,264,671, Maximum Loss =$1,213,259).

4. Loss severities above 96.5% were modelled using a Weibull distribution with the following parameters (Alpha = 0.6614 & Beta = 2,833,644, Shift =$1,213,259).

5. These loss distribution parameters are based on historic ElectraNet Pty Limited claims and additional loss scenarios from the ElectraNet risk register.

6. Information provided by ElectraNet as at February 2007.

Appendix 2 – Liability Risk Loss Modelling

ElectraNet Pty Limited
Non-Network Incidents - Liability Loss Analysis Table
Statistical Loss Summary
(USING DEVELOPMENT FACTORS)

				CURRENT	
Operating Expense Threshold:					$20,000
Insurance Deductible:					$25,000
Insurance Aggregate:					None

Policy Year	Historic Paid Losses	Historic Outstanding Losses	Historic Gross Losses	# Non-Zero Gross Losses	Percentage of Losses Open	CPI Revaluation Factor	IBNR Development Factor	Modified # Non-Zero Losses	IBNER Development Factor	Revalued Developed Gross Losses	Operating Expense Retention	Self Insurance Retention	Insurer Retention
1998/99	$2,000	$0	$2,000	1	0%	1.26	1.00	1	1.06	$2,525	$2,525	$0	$0
1999/00	$18,938	$0	$18,938	1	0%	1.25	1.00	1	1.08	$23,618	$0	$23,618	$0
2000/01	$1,243	$0	$1,243	3	0%	1.21	1.00	3	1.12	$1,508	$1,508	$0	$0
2001/02	$0	$0	$0	0	0%	1.14	1.00	0	1.16	$0	$0	$0	$0
2002/03	$0	$0	$0	0	0%	1.11	1.00	0	1.23	$0	$0	$0	$0
2003/04	$1,166	$100,000	$101,166	2	50%	1.08	1.02	2	1.38	$139,029	$1,253	$25,000	$112,776
2004/05	$11,773	$10,000	$21,773	7	14%	1.05	1.09	8	1.69	$29,264	$29,264	$0	$0
2005/06	$2,006	$120,000	$122,006	3	0%	1.03	1.22	4	2.46	$122,066	$2,066	$25,000	$95,000
2006/07	$3,149	$0	$3,149	4	0%	1.00	1.63	7	9.33	$3,149	$3,149	$0	$0
TOTAL: (1998/99 - 2006/07)	$40,276	$230,000	$270,276	21				25		$321,161	$39,767	$73,618	$207,776
AVERAGE: (2003/04 - 2005/06)	$4,982	$76,667	$81,648	4.00				4.44		$96,787	$10,861	$16,667	$69,259
STD DEV: (2003/04 - 2005/06)	$5,896	$58,595	$52,890	2.65				2.88		$59,088	$15,943	$14,434	$60,635

Qualifications and Assumptions

1. Information was provided by ElectraNet as at February 2007.
2. Incurred losses have been revalued to 2006 values using a Consumer Price Index Inflation Model.
3. The policy year has been assumed to run to June 30 for all historic years.
4. For the purpose of this exercise loss development factors (IBNER and IBNR) have been applied to loss frequency and severity (open claims only).
5. This analysis assumes a 'claims occurrence' wording.
6. All values are in A$ Dollars.

ElectraNet Pty Limited
Non-Network Incidents - Liability Loss Analysis
Based on the 'Current' Program on an 'As-If' Basis.
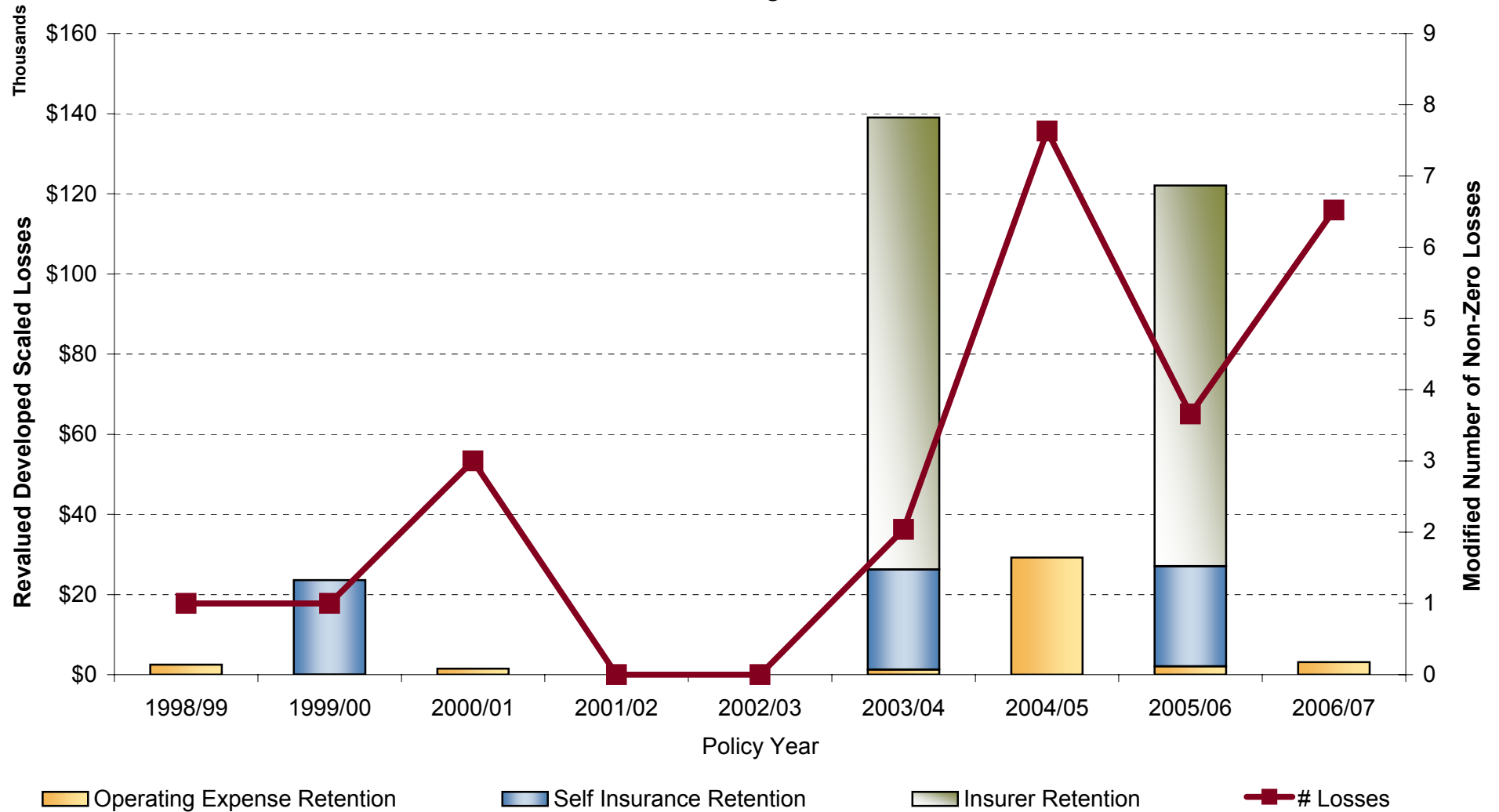
ElectraNet Pty Limited
Non-Network Incidents - Liability Revalued & Developed Gross Loss Bandings
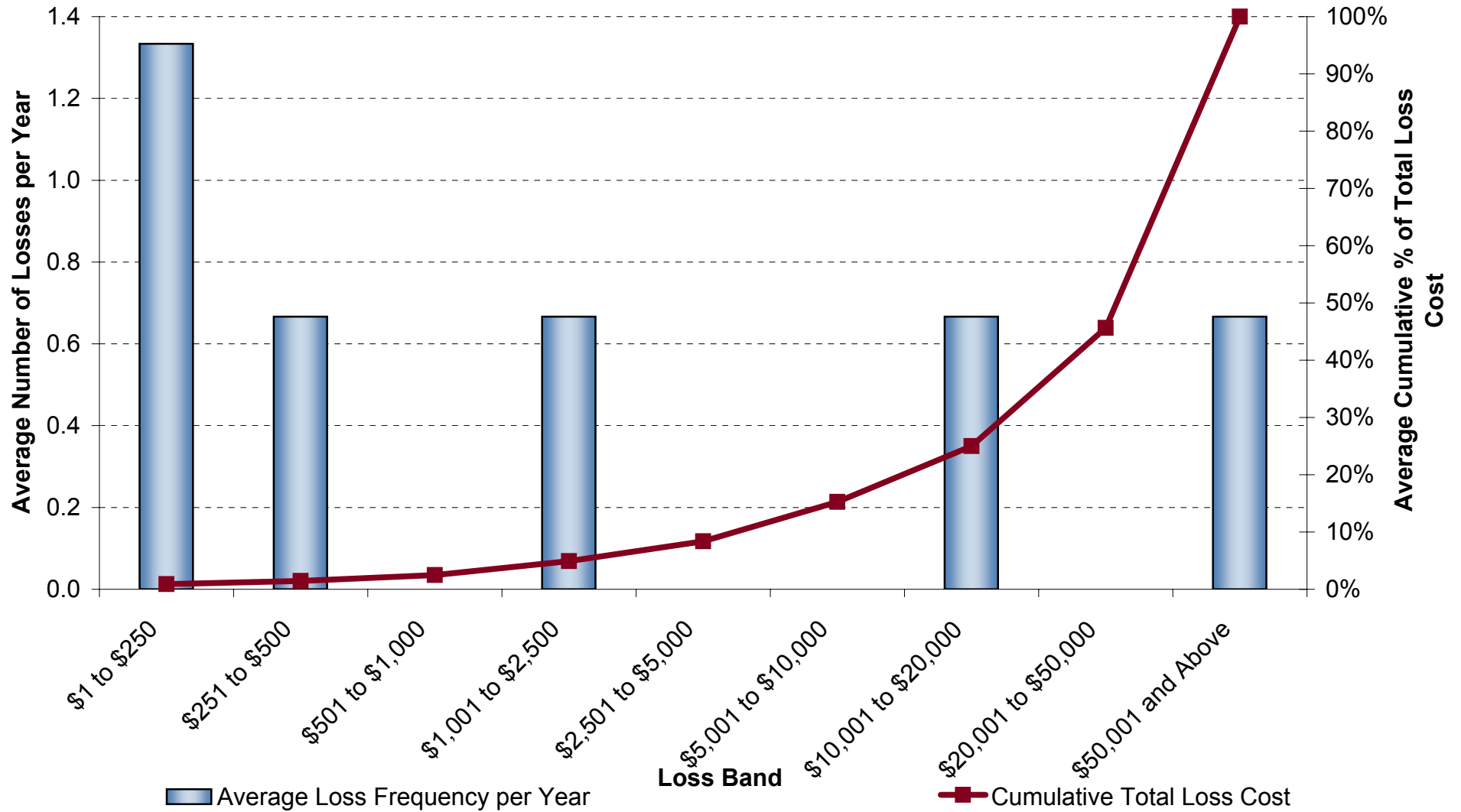
ElectraNet Pty Limited Liability Gross Loss Forecasts
Statistical Parameters For Aggregate Retained Losses
Based on Historical Losses Only

Below Deductible Losses

Retention Level		Mean (Average)		Volatility (St.Deviation)		Median		1 in 4 Year "High"		1 in 10 Year "High"		1 in 20 Year "High"		1 in 100 Year "High"
$	25,000	$	25,190	$	24,598	$	25,000	$	38,354	$	57,972	$	75,285	$	99,973
Self Insured		$	115,514	$	365,303	$	25,170	$	105,211	$	281,831	$	470,832	$	1,290,802

Excluding Losses less than $20k

Retention Level		Mean (Average)		Volatility (St.Deviation)		Median		1 in 4 Year "High"		1 in 10 Year "High"		1 in 20 Year "High"		1 in 100 Year "High"
$	25,000	$	17,981	$	22,256	$	-	$	25,000	$	50,000	$	50,000	$	75,000

Qualifications and Assumptions

1. Forecasts are based on a Normal distribution for loss frequency with the following parameters (Mean = 4.4 & Standard Deviation = 2.9).
2. Forecasts use two optimised distributions for the lower (bottom 71.4%) and higher (top 28.6%) claim severities.
3. Loss severities below 71.4% were modelled using a Beta General distribution with the following parameters (Alpha 1 = 1.0, Alpha 2 = 3.4 & Min = 0, Maximum Loss =$1,794).
4. Loss severities above 71.4% were modelled using a Log Normal distribution with the following parameters (Mean = 87,111.7 & Standard Deviation = 308,123.4, Shift =$1,794).
5. These loss distribution parameters are based on historic ElectraNet Pty Limited claims.
6. Information provided by ElectraNet as at February 2007.

ElectraNet Liability Risk
Other Losses Not Experienced but added to Landscape

Average Frequency of losses (per year)	1 in 'x' Year High	Type of Loss	Likely Incurred	Notes
0.02	1 in 50 years	Failure to Supply	$10,000,000	Loss of Interconnector
0.05	1 in 20 years	Failure to Supply	$27,000,000	Significant Network Operation (ETSA contract limits exposure to $1m)
0.01	1 in 100 years	Failure to Supply	$112,000,000	Security of Supply - CBD

ElectraNet Pty Limited Liability Gross Loss Forecasts
Statistical Parameters For Aggregate Retained Losses
Including Historical Losses and Additional Loss Scenarios

Below Deductible Losses

Retention Level		Mean (Average)	Volatility (St.Deviation)	Median	1 in 4 Year "High"	1 in 10 Year "High"	1 in 20 Year "High"	1 in 100 Year "High"
$	25,000	$ 35,759	$ 29,503	$ 30,683	$ 54,146	$ 76,710	$ 90,553	$ 120,513
Self Insured		$ 2,185,323	$ 26,739,866	$ 45,921	$ 142,856	$ 1,193,765	$ 4,782,263	$ 31,093,124

Excluding Losses less than $20k

Retention Level		Mean (Average)	Volatility (St.Deviation)	Median	1 in 4 Year "High"	1 in 10 Year "High"	1 in 20 Year "High"	1 in 100 Year "High"
$	25,000	$ 22,661	$ 25,200	$ 25,000	$ 25,000	$ 50,000	$ 75,000	$ 100,000

Qualifications and Assumptions

1. Forecasts are based on a Normal distribution for loss frequency with the following parameters (Mean = 3.9 & Standard Deviation = 2.5).

2. Forecasts use two optimised distributions for the lower (bottom 96.7%) and higher (top 3.3%) claim severities.

3. Loss severities below 96.7% were modelled using a Log Normal distribution with the following parameters (Mean = 28,144, Std Dev = 302,158, Maximum Loss =$120,000).

4. Loss severities above 96.7% were modelled using a Log-logistic distribution with the following parameters (Gamma = 0.0, Beta = 2,254,362.0 & Alpha = 1.0289, Shift =$120,000).

5. These loss distribution parameters are based on historic ElectraNet Pty Limited claims and additional loss scenarios from the ElectraNet risk register.

6. Information provided by ElectraNet as at February 2007.

Appendix 3 – Bushfire Risk Loss Modelling

Attachment 1   Loss Forecasts and Workings

ElectraNet Pty Limited Bushfire Gross Loss Forecasts
Statistical Parameters For Aggregate Retained Losses

Historical Losses with Dollar Value

DATE	FIRE DISTRICT	EVENT	DAMAGE	AMOUNT
06.02.89	H	Crossarm failed	100 HA pasture burnt	$52,228

Frequency

One monetary loss between 1983 and 2007	0.0417

Frequency based on historical occurrence

Fires in Various Exposure Level Areas based on Cable lengths (from John Field Consulting Report 'Values threatened by bushfires near ElectraNet SA transmission lines' report)

Values Threatened $m	Cable Length in Fire Area (Kilometres)	General Fires per 1,000km per 20 years	Probability of fire start per year	Probability of Electranet causing the fire
0-5m	1175	1.745	0.1025	0.0513
5m-20m	1374	1.745	0.1199	0.0599
20m-200m	2530	1.745	0.2207	0.1104
200m-300m	287	7.84	0.1125	0.0563
300m-500m	163	7.84	0.0639	0.0319
500m-750m	26	7.84	0.0102	0.0051
750m-1,000m	4	7.84	0.0016	0.0008
TOTAL	**5559**	**36.60**	**0.1595**	**0.0797**

Frequency based on CSIRO probabilities

Bushfire Ratings with # Fires per 1,000km over the last 20 years. Information taken from CSIRO Report.

	NBFRA	BFRA	HBFRA	TOTAL
Fires/1000km	0.71	2.78	7.84	3.38

NBFRA= Non Bush Fire Risk Area

BFRA= Bush Fire Risk Area

HBFRA= High Bush Fire Risk Area

Notes:

The report states that all areas with exposures greater than $200m are also in HBFRA.

Therefore all areas with exposure less than $200m used an average of the frequency expected for NBFRA and BFRA. i.e (0.71+2.78)/2 = 1.745. Otherwise the frequency expected for HBFRA was used.

ElectraNet probabilities of causing the fire are based on half of the South Australia probability.

The mid point of each value threatened range has been used for the purpose of calculating losses.

Uninsured Losses based on $25k Deductible / $400m Limit

Retention Level	Mean (Average)	Volatility (St.Deviation)	Median	1 in 4 Year "High"	1 in 10 Year "High"	1 in 20 Year "High"	1 in 100 Year "High"	1 in 250 Year "High"	1 in 500 Year "High"	1 in 1,000 Year "High"
Actual Frequency	$ 1,018	$ 4,942	$ -	$ -	$ -	$ -	$ 25,000	$ 25,000	$ 25,000	$ 25,000
CSIRO Frequency	$ 501,920	$ 11,662,212	$ -	$ -	$ -	$ 25,000	$ 25,000	$ 25,000	$ 25,000	$ 225,000,000

Gross Loss

Retention Level	Mean (Average)	Volatility (St.Deviation)	Median	1 in 4 Year "High"	1 in 10 Year "High"	1 in 20 Year "High"	1 in 100 Year "High"	1 in 250 Year "High"	1 in 500 Year "High"	1 in 1,000 Year "High"
Actual Frequency	$ 6,074,667	$ 42,284,642	$ -	$ -	$ -	$ -	$ 250,000,000	$ 400,000,000	$ 400,000,000	$ 400,000,000
CSIRO Frequency	$ 11,336,934	$ 56,482,191	$ -	$ -	$ -	$ 110,000,000	$ 400,000,000	$ 400,000,000	$ 400,000,000	$ 625,000,000

Appendix 4 – Network Self Insurance Loss Modelling

Attachment 1   Claims Summary – As-If Analysis

Attachment 2   Loss History Graph

Attachment 3   Loss Bandings Graph

Attachment 4   Loss Forecasts – Based On Historical Claims

Attachment 5   Top 20 Claims

ElectraNet Pty Limited
Network Self Insured Items Loss Analysis Table
Statistical Loss Summary
(NOT USING DEVELOPMENT FACTORS)

|							CURRENT		
							Operating Expense Threshold:		$20,000
							Insurance Deductible:		$100,000
							Insurance Aggregate:		None
Policy Year	Historic Paid Losses	Historic Outstanding Losses	Historic Gross Losses	# Non-Zero Gross Losses	CPI Revaluation Factor	Revalued Gross Losses	Operating Expense Retention	Self Insurance Retention	Insurer Retention
1990/91	$174	$0	$174	2	1.51	$262	$262	$0	$0
1991/92	$0	$0	$0	0	1.44	$0	$0	$0	$0
1992/93	$0	$0	$0	0	1.41	$0	$0	$0	$0
1993/94	$1,207	$0	$1,207	1	1.39	$1,684	$1,684	$0	$0
1994/95	$0	$0	$0	0	1.38	$0	$0	$0	$0
1995/96	$0	$0	$0	0	1.32	$0	$0	$0	$0
1996/97	$0	$0	$0	0	1.28	$0	$0	$0	$0
1997/98	$770	$0	$770	1	1.26	$971	$971	$0	$0
1998/99	$0	$0	$0	0	1.26	$0	$0	$0	$0
1999/00	$0	$0	$0	0	1.25	$0	$0	$0	$0
2000/01	$0	$0	$0	0	1.21	$0	$0	$0	$0
2001/02	$0	$0	$0	0	1.14	$0	$0	$0	$0
2002/03	$2,094	$0	$2,094	1	1.11	$2,329	$2,329	$0	$0
2003/04	$24,368	$0	$24,368	16	1.08	$26,196	$26,196	$0	$0
2004/05	$255,485	$0	$255,485	147	1.05	$269,314	$169,093	$100,221	$0
2005/06	$345,748	$0	$345,748	313	1.03	$356,062	$356,062	$0	$0
2006/07	$42,516	$0	$42,516	43	1.00	$42,516	$42,516	$0	$0
TOTAL:	$672,363	$0	$672,363	524		$699,333	$599,112	$100,221	$0
(1990/91 - 2006/07)									
AVERAGE:	$300,617	$0	$300,617	230.00		$312,688	$262,578	$50,111	$0
(2004/05 - 2005/06)									
STD DEV:	$63,826	$0	$63,826	117.38		$61,340	$132,207	$70,867	$0
(2004/05 - 2005/06)									

Qualifications and Assumptions

1. Information was provided by ElectraNet as at March 2006.
2. Incurred losses have been revalued to 2006 values using a Consumer Price Index Inflation Model.
3. The policy year has been assumed to run to June 30 for all historic years.
4. For the purpose of this exercise no loss development factors (IBNER or IBNR) have been applied to losses.
5. This analysis assumes a 'claims occurrence' wording.
6. All values are in A$ Dollars.

ElectraNet Pty Limited
Network Self Insured Items Loss Analysis
Based on the 'Current' Program on an 'As-If' Basis.

ElectraNet Pty Limited
Network Self Insured Items Revalued Gross Loss Bandings
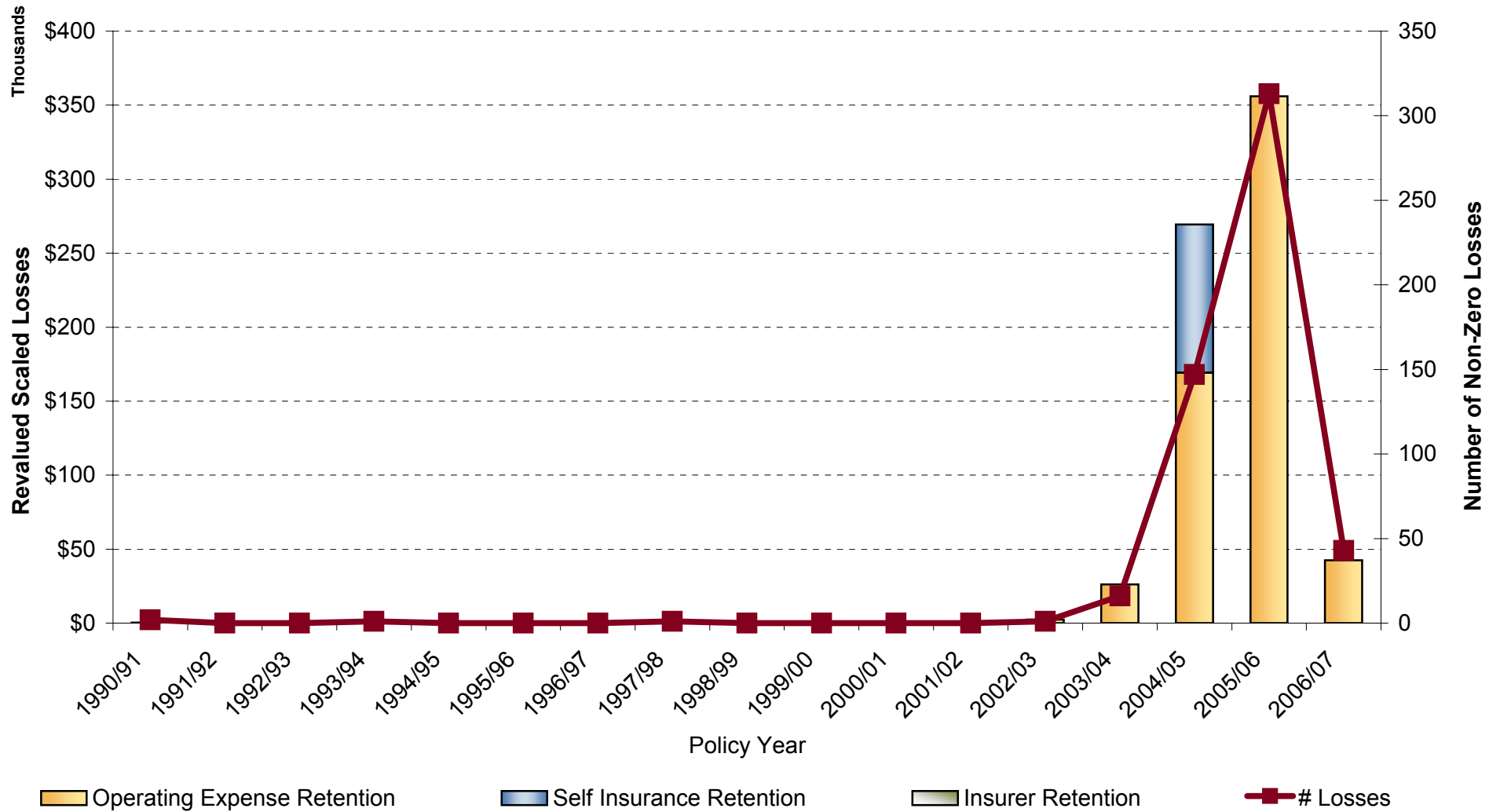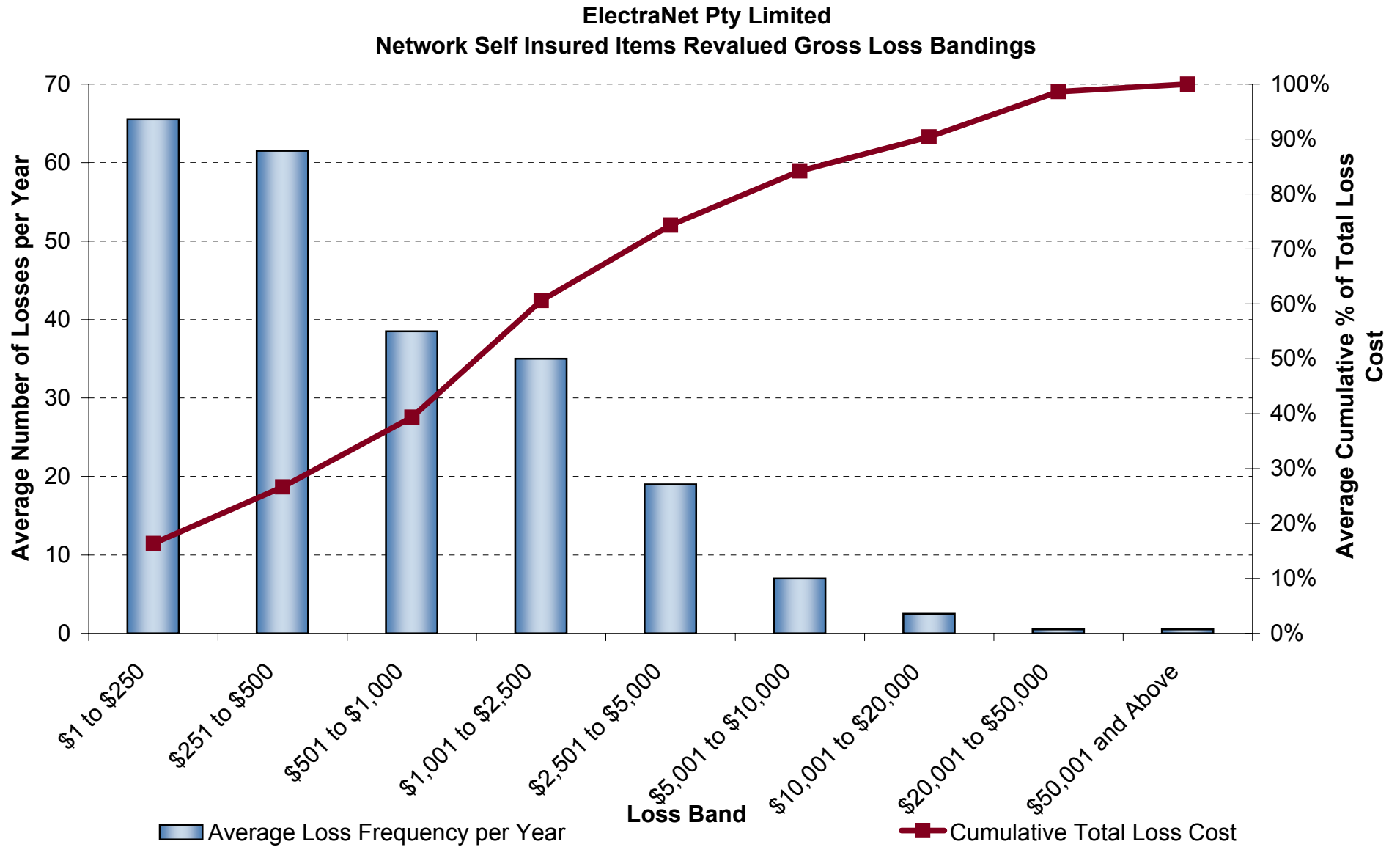
ElectraNet Pty Limited Network Self Insurance Items Gross Loss Forecasts
Statistical Parameters For Aggregate Retained Losses

Below Deductible Losses

Retention Level	Mean (Average)	Volatility (St.Deviation)	Median	1 in 4 Year "High"	1 in 10 Year "High"	1 in 20 Year "High"	1 in 100 Year "High"
$ 100,000	$ 300,228	$ 161,579	$ 292,336	$ 405,401	$ 513,711	$ 582,443	$ 708,407
Self Insured	$ 326,034	$ 334,680	$ 295,890	$ 418,331	$ 552,202	$ 648,361	$ 1,042,011

Excluding Losses less than $20k

Retention Level	Mean (Average)	Volatility (St.Deviation)	Median	1 in 4 Year "High"	1 in 10 Year "High"	1 in 20 Year "High"	1 in 100 Year "High"
$ 100,000	$ 54,195	$ 62,158	$ 32,842	$ 89,093	$ 141,328	$ 181,023	$ 255,317

Qualifications and Assumptions

1. Forecasts are based on a Normal distribution for loss frequency with the following parameters (Mean = 230.0 & Standard Deviation = 117.4).

2. Loss severities were modelled using a Log-logistic distribution with the following parameters (Gamma = 0.0, Beta = 530.6 & Alpha = 1, Maximum Loss = $1,000,000,000).

3. These loss distribution parameters are based on historic ElectraNet Pty Limited claims.

4. Information provided by ElectraNet as at January 2006.

ElectraNet Pty Limited
Network Self Insured Items Top 20 Individual Loss Listing from 1990/91 to 2006/07

Policy Year	Date of Occurrence	Date Reported	Claim Number	Claimant	Status	Paid Claim Cost	Outstanding Claim Cost	Gross Incurred	CPI	Revalued Gross Claim
2004/05	04/01/2005	04/01/2005	5068174	1184	Closed	$ 55,535	$ -	$ 55,535	1.054	$ 58,541
2004/05	04/01/2005	04/01/2005	5068171	H220-SIN-ESTA-FENCE	Closed	$ 39,540	$ -	$ 39,540	1.054	$ 41,681
2005/06	07/03/2006	07/03/2006	5064656	H115-SSS-543--2PROT	Closed	$ 18,145	$ -	$ 18,145	1.030	$ 18,687
2003/04	01/06/2004	01/06/2004	5083664	1222-STR-0168	Closed	$ 14,276	$ -	$ 14,276	1.075	$ 15,347
2005/06	20/03/2006	20/03/2006	5074466	1223-STR-0178-INSSUS_A	Closed	$ 14,058	$ -	$ 14,058	1.030	$ 14,477
2005/06	02/03/2006	02/03/2006	5071216	2286-STR-0176-INSTEN_A	Closed	$ 12,163	$ -	$ 12,163	1.030	$ 12,526
2005/06	22/03/2006	22/03/2006	5071196	2285-STR-0848-INSBEA_A	Closed	$ 11,425	$ -	$ 11,425	1.030	$ 11,766
2004/05	04/01/2005	04/01/2005	5068178	H220-T03-3TRF-3TRF	Closed	$ 10,736	$ -	$ 10,736	1.054	$ 11,317
2005/06	05/04/2006	05/04/2006	5085647	1224-STR-0084-INSSUS_A	Closed	$ 8,333	$ -	$ 8,333	1.030	$ 8,582
2005/06	29/08/2005	29/08/2005	5072303	1132	Closed	$ 8,258	$ -	$ 8,258	1.030	$ 8,504
2005/06	30/01/2006	30/01/2006	5073656	1131-STR-0493-INSSUS_A	Closed	$ 7,969	$ -	$ 7,969	1.030	$ 8,207
2004/05	04/01/2005	04/01/2005	5068172	H220-SIN-ESTA-YARD	Closed	$ 6,960	$ -	$ 6,960	1.054	$ 7,336
2005/06	01/05/2006	01/05/2006	5076844	1146-STR-0221	Closed	$ 7,103	$ -	$ 7,103	1.030	$ 7,315
2005/06	03/01/2006	03/01/2006	5074431	H453-SIN-ESTA-EARTHING	Closed	$ 7,047	$ -	$ 7,047	1.030	$ 7,257
2005/06	07/04/2006	07/04/2006	5073666	1062-STR-0049-INSTEN_A	Closed	$ 7,047	$ -	$ 7,047	1.030	$ 7,257
2006/07	23/08/2006	23/08/2006	5086194	H255-SIN-AIR--AIRRING	Closed	$ 7,033	$ -	$ 7,033	1.000	$ 7,033
2005/06	23/02/2006	23/02/2006	5073664	1131-STR-0562-INSTEN_A	Closed	$ 6,614	$ -	$ 6,614	1.030	$ 6,811
2004/05	28/01/2005	28/01/2005	5068437	T396-BD1	Closed	$ 6,392	$ -	$ 6,392	1.054	$ 6,738
2004/05	28/01/2005	28/01/2005	5068495	1045-STR-0147-INSSUS_A	Closed	$ 6,215	$ -	$ 6,215	1.054	$ 6,551
2005/06	30/01/2006	30/01/2006	5073665	1131-STR-0586-INSTEN_A	Closed	$ 6,352	$ -	$ 6,352	1.030	$ 6,542
Total						**$ 261,201**	**$ -**	**$ 261,201**		**$ 272,475**

Appendix 5 – Substation (Machinery Breakdown) Loss Modelling

Attachment 1   Claims Summary – As-If Analysis

Attachment 2   Loss History Graph

Attachment 3   Loss Bandings Graph

Attachment 4   Loss Forecasts – Based On Historical Claims

Attachment 5   Individual Historical Claims Listing

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

|								CURRENT		
								Insurance Deductible:		Self Insured
Policy Year	Historic Paid Losses	Historic Outstanding Losses	Historic Gross Losses	# Non-Zero Gross Losses	Percentage of Losses Open	CPI Revaluation Factor	Revalued Gross Losses	Operating Expense Retention	Self Insurance Retention	Insurer Retention
1999/00	$200,000	$0	$200,000	1	0%	1.25	$249,425	$0	$249,425	$0
2000/01	$0	$0	$0	0	0%	1.21	$0	$0	$0	$0
2001/02	$0	$0	$0	0	0%	1.14	$0	$0	$0	$0
2002/03	$150,000	$0	$150,000	1	0%	1.11	$166,801	$0	$166,801	$0
2003/04	$220,000	$0	$220,000	1	0%	1.08	$236,504	$0	$236,504	$0
2004/05	$200,000	$0	$200,000	1	0%	1.05	$210,826	$0	$210,826	$0
2005/06	$0	$0	$0	0	0%	1.03	$0	$0	$0	$0
2006/07	$0	$0	$0	0	0%	1.00	$0	$0	$0	$0
TOTAL: (1999/00 - 2006/07)	$770,000	$0	$770,000	4			$863,556	$0	$863,556	$0
AVERAGE: (1999/00 - 2005/06)	$110,000	$0	$110,000	0.57			$123,365	$0	$123,365	$0
STD DEV: (1999/00 - 2005/06)	$105,040	$0	$105,040	0.53			$118,240	$0	$118,240	$0

Qualifications and Assumptions

1. Information was provided by ElectraNet as at February 2007.
2. Incurred losses have been revalued to 2006 values using a Consumer Price Index Inflation Model.
3. The policy year has been assumed to run to June 30 for all historic years.
4. For the purpose of this exercise no loss development factors (IBNER or IBNR) have been applied to losses.
5. This analysis assumes a 'claims occurrence' wording.
6. All values are in A$ Dollars.

ElectraNet Pty Limited
Substation (Machinery Breakdown) Loss Analysis
Based on the 'Current' Program on an 'As-If' Basis.
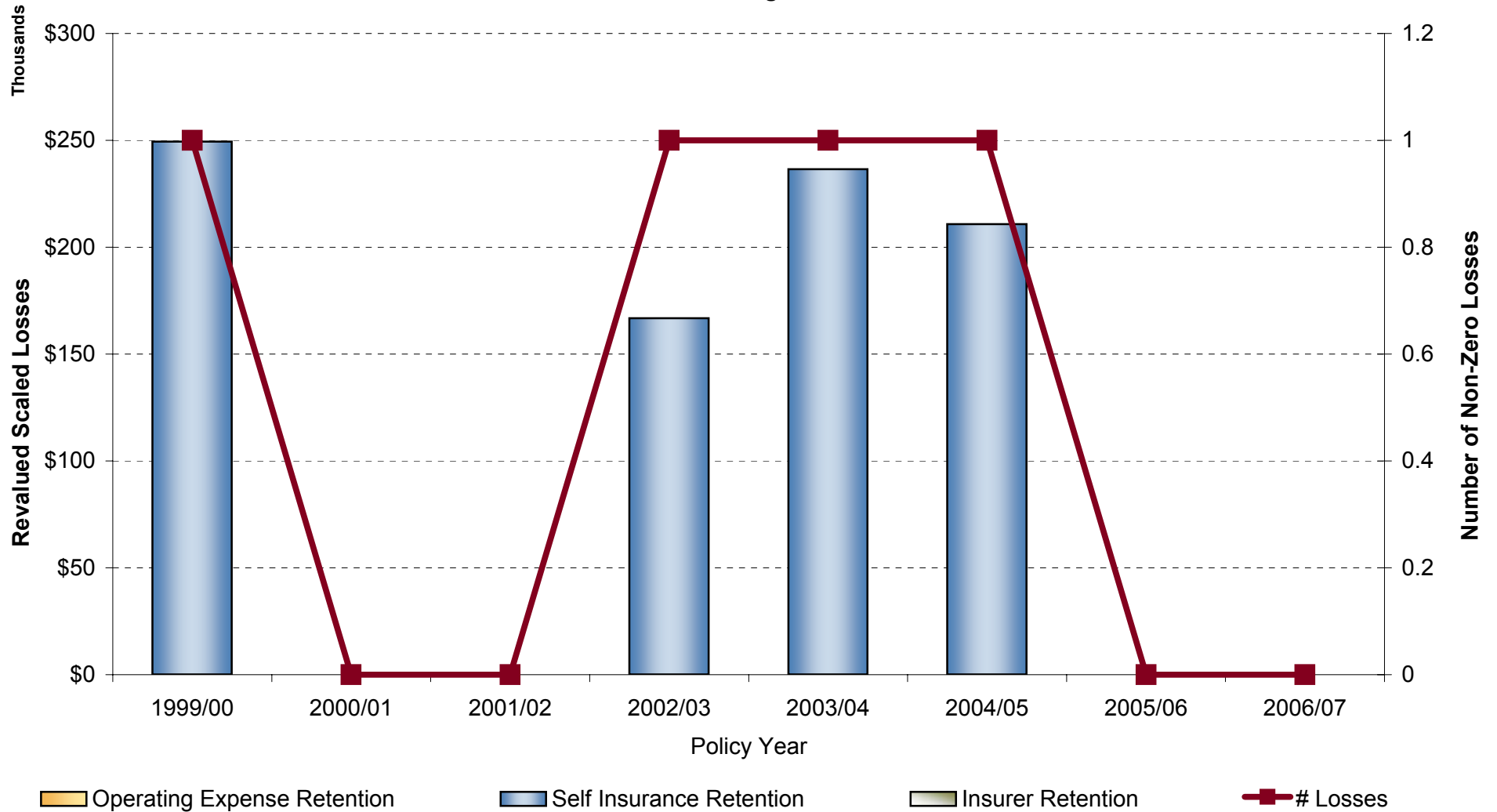
ElectraNet Pty Limited
Substation (Machinery Breakdown) Revalued Gross Loss Bandings
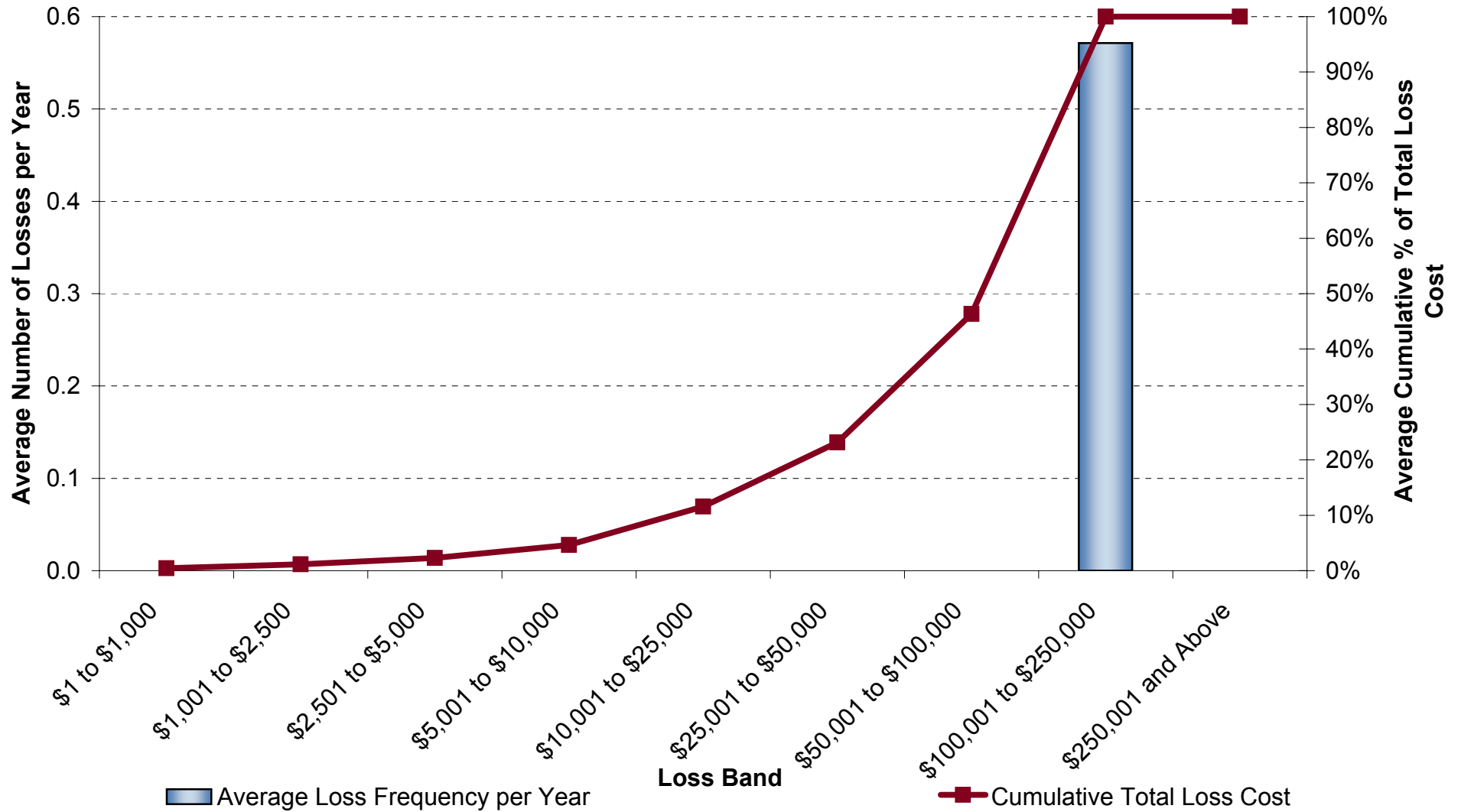
ElectraNet Pty Limited Substation Plant Gross Loss Forecasts
Statistical Parameters For Aggregate Retained Losses

Below Deductible Losses

Retention Level	Mean (Average)	Volatility (St.Deviation)	Median	1 in 4 Year "High"	1 in 10 Year "High"	1 in 20 Year "High"	1 in 100 Year "High"
Self Insured	$ 128,468	$ 126,214	$ 172,476	$ 221,374	$ 261,205	$ 303,415	$ 467,162

Qualifications and Assumptions

1. Forecasts are based on a Normal distribution for loss frequency with the following parameters (Mean = 0.6 & Standard Deviation = 0.5).
2. Loss severities were modelled using a Log Normal distribution with the following parameters (Mean = 215,889.0 & Standard Deviation = 36,446.0, Maximum Loss =$1,000,000,000).
3. These loss distribution parameters are based on historic ElectraNet Pty Limited claims.
4. Information provided by ElectraNet as at February 2007.

ElectraNet Pty Limited

Substation (Machinery Breakdown) Individual Loss Listing from 1999/00 to 2006/07

Policy Year	Date of Occurrence	Date Reported	Location	Status	Paid Claim Cost	Outstanding Claim Cost	Gross Claim	CPI	Revalued Gross Claim
1999/00	1/11/1999	1/11/1999	Tailem Bend	Closed	$ 200,000	$ -	$ 200,000	1.25	$ 249,425
Total for 1999/00					**$ 200,000**	**$ -**	**$ 200,000**		**$ 249,425**
2002/03	1/01/2003	1/01/2003	Roberstown	Closed	$ 150,000	$ -	$ 150,000	1.11	$ 166,801
Total for 2002/03					**$ 150,000**	**$ -**	**$ 150,000**		**$ 166,801**
2003/04	1/06/2004	1/06/2004	Torrens Island	Closed	$ 220,000	$ -	$ 220,000	1.08	$ 236,504
Total for 2003/04					**$ 220,000**	**$ -**	**$ 220,000**		**$ 236,504**
2004/05	19/06/2005	19/06/2005	Tailem Bend	Closed	$ 200,000	$ -	$ 200,000	1.05	$ 210,826
Total for 2004/05					**$ 200,000**	**$ -**	**$ 200,000**		**$ 210,826**
Grand Total					**$ 770,000**	**$ -**	**$ 770,000**		**$ 863,556**

Appendix 6 – Line Failure Risk Loss Modelling

Attachment 1   Loss Forecasts – Based On Historical Claims

Attachment 2   Individual Historical Claims Listing

ElectraNet Pty Limited Line Failures Gross Loss Forecasts
Statistical Parameters For Aggregate Retained Losses

Below Deductible Losses

Retention Level	Mean (Average)	Volatility (St.Deviation)	Median	1 in 4 Year "High"	1 in 10 Year "High"	1 in 20 Year "High"	1 in 100 Year "High"	1 in 250 Year "High"
Self Insured	$ 761,645	$ 9,785,814	$ -	$ 146,331	$ 1,178,800	$ 2,423,536	$ 10,255,917	$ 21,360,609

Qualifications and Assumptions
1. Forecasts are based on a Poisson distribution for loss frequency with the following parameters (Lambda = 0.3).
2. Loss severities were modelled using a Log-logistic distribution with the following parameters (Gamma = 0.0, Beta = 566,414.0 & Alpha = 1, Maximum Loss =$1,000,000,000).
3. These loss distribution parameters are based on historic ElectraNet Pty Limited claims.
4. Information provided by ElectraNet as at February 2007.

ElectraNet Line Failure Loss History

Event	event id	Failure Date	year	structures replaced	age at failure	TS No.	Type	Line Name	construction date	age at 2001	event	Structures
1		Nov-62	1962	1	2	1910	tower	Davenport -- Brinkworth	1960	41	*	76
1		Nov-62	1962	6	2	1912	tower	TIPS - Magill	1960	41	*	13 to 18
1		Nov-62	1962	1	2	1910	tower	Davenport -- Brinkworth	1960	41	*	76
2		Aug-63	1963	1	3	1912	tower	TIPS - Magill	1960	41	*	116
3		Sep-65	1965	1	11	1821	pole	Waterloo - Templers	1954	47	*	7
3		Sep-65	1965	6	11	1822	pole	Para - Templers	1954	47	*	32,34, 37, 39 to 41
4		Oct-65	1965	6	5	1910	tower	Davenport -- Brinkworth	1960	41	*	51 to 56
5		Jan-73	1973	25	21	1815	pole	Playford - Bungama	1952	49	*	220 to 244 (approx
5		Jan-73	1973	5	13	1910	tower	Davenport -- Brinkworth	1960	41	*	290 to 294
6		Dec-73	1973	2	14	1812	tower	Playford - Pimba 132 kV	1959	42	*	329 to 330
7		Jan-75	1975	9	15	1910	tower	Davenport -- Brinkworth	1960	41	*	13 to 21
8		Dec-77	1977	2	18	1812	tower	Playford - Pimba 132 kV	1959	42	*	23 & 24
9		Nov-79	1979	1	25	1846	pole	Robertstown - North West Bend	1954	47	*	110
9		Nov-79	1979	4	25	1846	pole	Robertstown - North West Bend	1954	47	*	119 to 122
9		Nov-79	1979	2	25	1846	pole	Robertstown - North West Bend	1954	47	*	275 & 276
9		Nov-79	1979	1	29	1814	pole	Bungama - Baroota	1950	51	*	9
9		Nov-79	1979	25	27	1816	pole	Bungama - Hummocks	1952	49	*	174 to 198
9		Nov-79	1979	33	25	1804	pole	Brinkworth --- Mintaro	1954	47	*	161 to 193
9		Nov-79	1979	2	25	1819	pole	Waterloo -- Robertstown	1954	47	*	44 & 45
9		Nov-79	1979	9	25	1819	pole	Waterloo -- Robertstown	1954	47	*	54 to 62
9		Nov-79	1979	1	25	1819	pole	Waterloo -- Robertstown	1954	47	*	66
9		Nov-79	1979	5	19	1910	tower	Davenport -- Brinkworth	1960	41	*	130 to 134
9		Nov-79	1979	4	19	1910	tower	Davenport -- Brinkworth	1960	41	*	77 to 80
9		Nov-79	1979	31	19	1911	tower	Para - Brinkworth	1960	41	*	241 to 271
9		Nov-79	1979	38	19	1911	tower	Para - Brinkworth	1960	41	*	287 to 324
10		Jan-91	1991	3	41	1814	pole	Bungama - Baroota	1950	51	*	47 to 59
10		Jan-91	1991	24	39	1816	pole	Bungama - Hummocks	1952	49	*	301 to 324
11		Aug-95	1995	5	43	1815	pole	Playford - Bungama	1952	49	*	41A to 45
12		Oct-98	1998	4	44	1821	tower	Waterloo - Templers	1954	47	strong wind	140 141 142 143
13		Nov-99	1999	21	47	1816	pole	Bungama - Hummocks	1952	49	storm >120km/h	122 to 132 124 to 144
13		Nov-99	1999	6	39	1911	tower	Para - Brinkworth	1960	41	storm >120km/h	280 to 285
14	ID1115	Sep-30	2004	1	52	1815	pole	Playford-Bungama	1952			76
15		Jan-05	2005	1	53	1816	pole	Bungama - Hummocks	1952			

* data to be sourced

Line Failure Event Loss Amounts

Event Number	Failure Date	Total Cost
1	Nov-62	$1,200,000
2	Aug-63	$150,000
3	Sep-65	$350,000
4	Oct-65	$900,000
5	Jan-73	$2,000,000
6	Dec-73	$300,000
7	Jan-75	$1,350,000
8	Dec-77	$300,000
9	Nov-79	$15,600,000
10	Jan-91	$1,350,000
11	Aug-95	$250,000
12	Oct-98	$600,000
13	Nov-99	$1,950,000
14	Sep-30	$50,000
15	Jan-05	$50,000
TOTAL		$26,400,000

Note: Loss amounts based on replacement cost of $50k per pole and $150k per tower.

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Appendix 7 – Combined Risk Loss Modelling

Attachment 1   Loss Forecasts

ElectraNet Pty Limited Combined Gross Loss Forecasts
Statistical Parameters For Aggregate Retained Losses

Self-Insurance Losses (Historical)

Retention Level	Mean (Average)	Volatility (St.Deviation)	Median	1 in 4 Year "High"	1 in 10 Year "High"	1 in 20 Year "High"	1 in 100 Year "High"
All Losses below deductible	$ 1,303,015	$ 9,791,998	$ 622,567	$ 889,856	$ 1,774,213	$ 2,968,840	$ 10,687,342
Losses excl < $20k	$ 1,043,937	$ 9,788,603	$ 344,995	$ 579,382	$ 1,488,168	$ 2,705,335	$ 10,414,723
Gross Losses (No Insurance)	$ 7,769,376	$ 43,508,292	$ 852,554	$ 1,567,282	$ 3,565,676	$ 9,514,371	$ 250,789,942

Self-Insurance Losses (Historical and Additional Loss Scenarios)

Retention Level	Mean (Average)	Volatility (St.Deviation)	Median	1 in 4 Year "High"	1 in 10 Year "High"	1 in 20 Year "High"	1 in 100 Year "High"
All Losses below deductible	$ 1,827,512	$ 15,212,767	$ 647,551	$ 918,597	$ 1,823,867	$ 3,131,938	$ 12,499,315
Losses excl < $20k	$ 1,556,463	$ 15,210,284	$ 358,714	$ 590,003	$ 1,540,268	$ 2,865,368	$ 12,256,027
Gross Losses (No Insurance)	$ 15,635,219	$ 63,306,155	$ 1,100,759	$ 3,377,714	$ 13,637,669	$ 110,502,496	$ 400,446,311

Qualifications and Assumptions

1. Combined forecasts are derived from the forecasts of each separate risk class. Please refer to prior appendices for full details of each forecast.