



2012 ANNUAL REPORT

NEW ZEALAND LOCAL AUTHORITY
PROTECTION PROGRAMME
DISASTER FUND

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CHAIRMAN'S REPORT

I have pleasure in presenting the Chairman's Report for the 2011–12 financial year.

During the year, six out of seven of LAPP's below-ground reinsurers settled their share of LAPP's Canterbury earthquake claims, enabling LAPP to pay in total over \$200 million to Christchurch City Council and Waimakariri District Council. In so doing, LAPP has met the purpose it was set up for. Unfortunately it has been necessary to take the seventh reinsurer, New India, to Court for non-payment of its share of the claims. Your Board is confident that the Court will find in LAPP's favour and the New India claims will be paid in full.

It was very difficult to obtain reinsurance for the 2011–12 year. The reinsurers were already concerned with their New Zealand exposures after the major Canterbury earthquakes of 4 September 2010 (measuring 7.1) and 22 February 2011 (measuring 6.3). The Christchurch earthquake on 13 June 2011 (also measuring 6.3) just before LAPP's reinsurance programme was due to renew on 30 June made matters worse. In the end, despite a 400% price increase even without any cover for the Canterbury region (reinsurance was not available), LAPP was only able to renew 92% of its reinsurance programme.

With LAPP's disaster fund exhausted by the Canterbury earthquake claims the reinsurance premiums could only be funded by a substantial increase in member contributions. Thus for 2011–12, contribution rates doubled and the 50% contribution rebate that had applied the previous year was removed. The Fund's equity at 30 June 2012 was \$2,629,304, but that has subsequently been boosted by the 1 July 2012 contributions to around \$8 million after adjusting for reinsurance and other costs.

Earthquake issues and funding dilemmas aside, other Fund activities have continued. As a result of a number of queries raised on flood loss protection, work was

commenced on looking at issues that specifically affect the regional council and unitary council members. Whilst this work is on-going, one of the first outcomes has been the preparation of a generic business case showing the various options available to regional authorities to cover their 40 percent share of reinstatement costs following a natural disaster. The case for the LAPP Fund to be used for risk financing by regional authorities is clearly shown to be a strong and prudent option.

Following the Canterbury earthquakes, the information obtained on damage to infrastructure assets in highly liquefiable soils was reviewed with the help of the Institute of Geological and Nuclear Sciences (GNS). Additional adjustment factors for damage in very highly liquefiable soils were developed with GNS and a full review of soil types was completed for every member. The member earthquake risk assessments have been re-estimated following these modifications. The expected loss for a major earthquake in Canterbury was also re-modelled by GNS to calibrate the model with actual losses that had occurred. This exercise is in line with international best practice for re-evaluations of earthquake models following a major earthquake.

The Fund's risk management programme continued with our risk managers visiting a number of members in the North and South Islands. Each member is visited at least every four years for a review of their infrastructure assets covered by the LAPP Fund, asset management practices, and management of natural hazard exposures to these assets.

These visits have lately been an opportunity to explain the impact of the Canterbury earthquakes on the Fund and the plans to rebuild the Fund. Information presented to council staff provides valuable training, enhanced understanding of the purpose of the Fund, information on assets that can be covered by the Fund, and claim procedures following an event. This programme also helps ensure that the trustees and reinsurers have up-to-date information on the assets being declared for cover.

The Fund website, www.lappfund.co.nz, continues to be an excellent resource, providing members with current information on the policies and procedures of the Fund. Each member can access the latest information it has provided on its infrastructure assets declared for cover by the Fund.

LAPP's website also carries information from the Ministry of Civil Defence and Emergency Management and other relevant authorities relating to natural hazard risk assessment and the reinstatement of assets following a major natural hazard event. Council staff that are unable to attend the member meetings can access presentations made at these meetings and associated materials for their information. Trustees' policies relating to claims, deductibles and assets coverage are also available on the website. There are now more than 1000 documents on the LAPP website relating to member information or more general information on the Fund.

I am disappointed to record that Auckland Council has not paid its contribution for the 2011–12 year and has given written notice that it intends to leave the Fund in June 2013. No indication to the trustees, let alone written notice, was received from Auckland Council of its wish to withdraw from the Fund prior to 30 June 2010, so LAPP is pursuing through the Court an unpaid contribution of \$1,068,283.30 for 2011–12 plus interest plus costs as per clause 7.2.2 of LAPP's trust deed in order to protect the interests of LAPP's other members.

In the immediate future the principal objective of the trustees and management continues to be ensuring that LAPP is fully re-established and financially secure so that it can provide financial security for members. In other words, to be able to fulfill the reasons for which it was established.

A tremendous amount has been achieved this year with the support of many. I wish to thank the administration management staff, particularly Christopher Munden, Tim Sole and Roger Gyles along with Risk Management Partners, Bryan Whitefield and Marlene Kanga, for their work during the year. Special thanks must also go to the Fund's loss adjusters, Cunningham Lindsey and their co-opted experts. I also thank my fellow trustees for their strong participation and input into the Fund's affairs.



Kinsley Sampson
Chairman

TO THE MEMBERS OF NEW ZEALAND LOCAL AUTHORITY PROTECTION PROGRAMME DISASTER FUND'S SPECIAL PURPOSE FINANCIAL STATEMENTS FOR THE YEAR ENDED 30 JUNE 2012

The Auditor-General is the auditor of New Zealand Local Authority Protection Programme Disaster Fund ("the Fund"). The Auditor-General has appointed me, Malcolm Bruce, using the staff and resources of KPMG, to carry out the audit of the special purpose financial statements of the Fund on her behalf.

We have audited the special purpose financial statements of the Fund on pages 6 to 17, that comprise the Statement of financial position as at 30 June 2012, the Statement of financial performance, Statement of changes in equity and Statement of cash flows for the year ended on that date and the notes to the special purpose financial statements that include accounting policies and other explanatory information.

Opinion

In our opinion the special purpose financial statements of the Fund on pages 6 to 17:

- comply with the accounting policies of the Fund; and
- give a true and fair view of the Fund's:
 - financial position as at 30 June 2012; and
 - financial performance and cash flows for the year ended on that date.

Our audit was completed on 29 November 2012. This is the date at which our opinion is expressed.

The basis of our opinion is explained below. In addition, we outline the responsibilities of the Trustees and our responsibilities, and we explain our independence.

Basis of preparation of the special purpose financial statements

Without modifying our opinion, we draw your attention to Note 1 to the special purpose financial statements, which notes that the Trustees have prepared special purpose financial statements so that the Fund could

continue to apply the same accounting policies it used in prior years. Those accounting policies may not be suitable for general purpose financial statements of the Fund as a result of its increased size following claims and reinsurance transactions relating to the Canterbury earthquakes during 2010 and 2011. The special purpose financial statements have been prepared to inform Fund members of the Fund's financial performance during the year. As a result, the special purpose financial statements may not be suitable for another purpose. We consider those disclosures in Note 1 to be adequate.

Uncertainty associated with the gross claim liabilities and the related reinsurance recoveries

We also draw your attention to Note 4 to the special purpose financial statements, which discloses the considerable uncertainty that exists for measuring the gross claim liabilities and the related reinsurance recoveries arising from the Canterbury earthquakes during 2010 and 2011. We consider the disclosures in Note 4 to be adequate.

Appropriateness of the going concern assumption

The basis of our opinion is explained below. In addition, we outline the responsibilities of the Trustees and our responsibilities, and we explain our independence.

Basis of opinion

We carried out our audit in accordance with the Auditor-General's Auditing Standards, which incorporate the International Standards on Auditing (New Zealand). Those standards require that we comply with ethical requirements and plan and carry out our audit to obtain reasonable assurance about whether the special purpose financial statements are free from material misstatement.

Material misstatements are differences or omissions of amounts and disclosures that would affect a reader's overall understanding of the special purpose financial statements. If we had found material misstatements that were not corrected, we would have referred to them in our opinion.

An audit involves carrying out procedures to obtain audit evidence about the amounts and disclosures in the special purpose financial statements. The procedures selected depend on our judgement, including our assessment of risks of material misstatement of the special purpose financial statements, whether due to fraud or error. In making those risk assessments; we consider internal control relevant to the preparation of the Fund's special purpose financial statements that give a true and fair view of the matters to which they relate. We consider internal control in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the Fund's internal control.

An audit also involves evaluating:

- the appropriateness of accounting policies used and whether they have been consistently applied;
- the reasonableness of the significant accounting estimates and judgements made by the Trustees;
- the adequacy of all disclosures in the special purpose financial statements; and
- the overall presentation of the special purpose financial statements.

We did not examine every transaction, nor do we guarantee complete accuracy of the special purpose financial statements. We have obtained all the information and explanations we have required and we believe we have obtained sufficient and appropriate audit evidence to provide a basis for our audit opinion.

Distribution and use of this report

This report has been prepared solely for members of the Fund and should not be distributed to or used by any parties other than members of the Fund.

Responsibilities of the Trustees

The Trustees are responsible for preparing financial statements that give a true and fair view of the Fund's financial affairs. To fulfil this responsibility the Trustees have chosen to present special purpose financial statements that show the financial position, financial performance and cash flows of the Fund.

The Trustees are also responsible for such internal control as they determine is necessary to enable the preparation of the special purpose financial statements that are free from material misstatement, whether due to fraud or error.

The Trustees' responsibilities arise from clause 5.3 of the Trust Deed of the Fund.

Responsibilities of the Auditor

We are responsible for expressing an independent opinion on the special purpose financial statements and reporting that opinion to you based on our audit. Our responsibility arises from section 15 of the Public Audit Act 2001 and clause 4.4.1 of the Trust Deed of the Fund.

Independence

When carrying out the audit, we followed the independence requirements of the Auditor-General, which incorporate the independence requirements of the New Zealand Institute of Chartered Accountants.

Other than the audit, we have no relationship with or interests in the Fund.



Malcolm Bruce
KPMG
On behalf of the Auditor-General
Wellington, New Zealand

STATEMENT OF FINANCIAL PERFORMANCE

FOR THE YEAR ENDED 30 JUNE 2012

	Note	2012 \$	2011 \$
INCOME			
Members' Below-Ground Contributions		14,117,872	11,429,025
Members' Above-Ground Contributions		35,579	2,378,711
Interest – Bank Deposits		1,457,388	1,028,998
Income from Managed Funds (net)		-	1,685,265
TOTAL INCOME		15,610,839	16,521,999
EXPENDITURE			
Direct Expenses			
Claims Expense	4	182,330,932	522,225,951
Reinsurance Recoveries	4	(180,688,917)	(471,368,900)
Net Claims Expense		1,642,015	50,857,051
Risk Management Programme		327,454	323,526
Excess of Loss Insurance Premium		8,162,492	2,900,568
Reinstatement Premium		558,674	1,305,000
		10,690,634	55,386,145
Other Expenses			
Administration Fees	7	394,423	316,035
Audit Fees-Financial Statements		39,750	6,808
Consultancy		51,560	25,306
Legal Fees		16,486	4,135
Meeting/Travel Expenses		33,351	18,416
Printing and Stationery		8,750	8,781
Rating Agency Fee		-	11,572
Trustees' Liability Insurance		44,960	12,500
Trustees' Remuneration		45,600	32,052
Sundry Expenses		629	587
		635,509	436,192
TOTAL EXPENDITURE		11,326,143	55,822,337
Net Surplus / (Deficit) before tax		4,284,696	(39,300,338)
Tax Expense		-	-
NET SURPLUS / (DEFICIT)		4,284,696	(39,300,338)

The notes to the Special Purpose Financial Statements form part of and are to be read in conjunction with this Statement of Financial Performance.

STATEMENT OF MOVEMENTS IN EQUITY

FOR THE YEAR ENDED 30 JUNE 2012

	2012 \$	2011 \$
Net Surplus / (Deficit) for the Year	4,284,696	(39,300,338)
TOTAL RECOGNISED REVENUES AND EXPENSES	4,284,696	(39,300,338)
Equity at beginning of the Year	(1,655,393)	37,644,945
EQUITY AT END OF THE YEAR	2,629,303	(1,655,393)

The notes to the Special Purpose Financial Statements form part of and are to be read in conjunction with this Statement of Movements in Equity.

STATEMENT OF FINANCIAL POSITION

AS AT 30 JUNE 2012

	Note	2012 \$	2011 \$
TOTAL EQUITY		2,629,303	(1,655,393)
Represented By:			
Current Assets			
Bank – ANZ National Bank Ltd		3,475,621	2,416,426
Short Term Deposits – Bank Deposits		-	26,305,000
Accrued Interest		106,648	18,413
Accounts Receivable	10	1,397,917	13,181,285
Reinsurance Recoveries Receivable	5	406,419,333	471,368,900
GST Receivable		24,995,465	1,185,295
Total Current Assets		436,394,984	514,475,319
TOTAL ASSETS		436,394,984	514,475,319
Current Liabilities			
Accounts Payable		3,068,124	1,223,934
Reinsurance Bordereau received in advance		-	18,000,000
Premium Reserve		-	115,668
Reinstatement Premiums Payable		126,068	710,000
Provision for Claims	6	430,571,489	496,081,110
Total Current Liabilities		433,765,681	516,130,712
TOTAL LIABILITIES		433,765,681	516,130,712
EXCESS / (DEFICIT) OF ASSETS OVER LIABILITIES		2,629,303	(1,655,393)

Approved for and on behalf of the Board on 29 November 2012:



KN SAMPSON – CHAIRMAN



DA LOTT – TRUSTEE

The notes to the Special Purpose Financial Statements form part of and are to be read in conjunction with this Statement of Financial Position.

STATEMENT OF CASH FLOWS

FOR THE YEAR ENDED 30 JUNE 2012

	Note	2012 \$	2011 \$
CASH FLOWS FROM OPERATING ACTIVITIES			
Cash was Provided from:			
Members' Contributions		21,310,560	3,534,622
Interest Received – Bank		1,369,152	1,235,683
Sundry Income		8,531	2,410,313
		22,688,243	7,180,618
Cash was Applied to:			
Net Claims		14,314,808	12,634,008
Risk Management Programme		334,737	338,044
Excess of Loss Insurance		10,325,098	2,475,568
Administration Fees		452,803	279,751
Meeting/Travel Expenses		31,533	20,623
Trustees' Remuneration		45,600	32,052
Other Expenses		197,896	57,789
Net GST Paid		22,231,574	2,933,811
		47,934,048	18,771,646
NET CASH FLOW FROM OPERATING ACTIVITIES	3	(25,245,805)	(11,591,028)
CASH FLOWS FROM INVESTING ACTIVITIES			
Cash was Provided from:			
Sale of Investments – WiNZ Funds		-	9,536,964
Maturity of Investments – Short term Bank Deposits		26,305,000	2,145,000
Investment Income		-	1,685,265
NET CASH FLOW FROM INVESTING ACTIVITIES		26,305,000	13,367,229
Net Increase / (Decrease) in Cash Held		1,059,195	1,776,201
Opening Cash Balance		2,416,426	640,225
CLOSING CASH BALANCE		3,475,621	2,416,426
Represented by:			
Bank – ANZ National Bank Ltd		3,475,621	2,416,426
		3,475,621	2,416,426

The notes to the Special Purpose Financial Statements form part of and are to be read in conjunction with this Statement of Cash Flows.

NOTES TO THE SPECIAL PURPOSE FINANCIAL STATEMENTS

FOR THE YEAR ENDED 30 JUNE 2012

NOTE 1. SIGNIFICANT ACCOUNTING POLICIES

Reporting Entity and Basis of Preparation

These special purpose financial statements for the New Zealand Local Authority Protection Programme Disaster Fund, ("The Fund") have been prepared in accordance with the accounting policies set out below and the Charitable Trusts Act 1957.

Special purpose financial statements have been prepared so that the Fund could continue to apply the same accounting policies it used in prior years. Those accounting policies are based on New Zealand Financial Reporting Standards (FRSs) and Statements of Standards Accounting Practice (SSAPs). For many years the Fund was able to apply FRSs and SSAPs in its general purpose financial statements because the Fund met the criteria to be able to do so, which was mainly due to its size. As a result of claims and reinsurance transactions relating to the Canterbury earthquakes during 2010 and 2011, the Fund has increased in size such that FRSs and SSAPs are not deemed suitable for general purpose financial statements of the Fund.

The special purpose financial statements have been prepared to inform Fund members of the Fund's financial performance during the year on a basis that is consistent with the past. As a result, the special purpose financial statements may not be suitable for another purpose.

The special purpose financial statements for the year ended 30 June 2012 were authorised for issue by the Board of Trustees on 29 November 2012.

Basis of Measurement

The measurement base adopted is that of historical cost, except for investments which are at market value.

Currency

These special purpose financial Statements are presented in New Zealand Dollars.

Particular Accounting Policies

The following particular accounting policies which materially affect the measurement of financial performance and financial position have been applied:

TAXATION

The Fund has been granted charitable status under section CW 34(1) of the Income Tax Act 2004 by the Inland Revenue Department, hence no taxation has been provided for in the financial statements.

GOODS AND SERVICES TAX

The Special Purpose Financial Statements are prepared on a GST exclusive basis, except for receivables and payables that are stated inclusive of GST.

PROVISION FOR CLAIMS

A provision for claims is recognised when:

- a claim has been received;
- a potential obligation has been recognised by the Board of Trustees;
- it is probable that an outflow of resources will be required to settle the obligation;
- a reliable estimate can be made of the amount of the obligation; and
- the claim is based on the approved discretionary payment from the trustees.

NOTES TO THE SPECIAL PURPOSE FINANCIAL STATEMENTS

FOR THE YEAR ENDED 30 JUNE 2012 (*continued*)

INCOME RECOGNITION

Interest income is accounted for on an accruals basis. Any unrealised gains or losses arising from the revaluation of investments and realised gains or losses from the sale of investments during the year are included in the Statement of Financial Performance.

FINANCIAL INSTRUMENTS

Non-derivative financial instruments

Non-derivative financial instruments comprise investments in shares, trade and other receivables, cash and cash equivalents, loans and borrowings, and trade and other payables.

Non-derivative financial instruments are recognised initially at fair value plus, for instruments not at fair value through profit or loss, any directly attributable transaction costs. Subsequent to initial recognition, non-derivative financial instruments are measured as described below.

A financial instrument is recognised if the Fund becomes a party to the contractual provisions of the instrument. Financial assets are derecognised if the Fund's contractual rights to the cash flows from the financial assets expire or if the Fund transfers the financial asset to another party without retaining control or substantially all risks and rewards of the asset.

Fair value through profit or loss

An instrument is classified as at fair value through profit or loss if it is held for trading or designated as such upon initial recognition. Shares are designated at fair value through profit or loss if the Fund manages such investments and makes purchase and sale decisions based on their fair value. Shares held for trading are classified as current assets. Upon initial recognition, attributable transaction costs are recognised in profit or loss when incurred. Subsequent to initial recognition, financial instruments at fair value through profit or loss are measured at fair value, and changes therein are recognised in the Statement of Financial Performance.

OTHER

Subsequent to initial recognition, other non-derivative financial instruments are measured at amortised cost using the effective interest method, less any impairment losses.

STATEMENT OF CASH FLOWS

The following are definitions of the terms used in the Statement of Cash Flows:

Cash: comprises cash balances held with banks in New Zealand and overseas. Cash excludes term deposits that are not used as part of the Fund's day to day cash management.

Investing activities: comprise acquisition and disposal of investments. Investments include securities not falling within the definition of cash.

Operating activities: include all transactions and other events that are not investing activities.

Critical Accounting Policies

The critical estimates and judgements taken in respect to the accounts for the year ended 30 June 2012 have been in respect to the quantification of the losses arising from the Canterbury earthquakes and the subsequent reinsurance recoveries. The uncertainties are set out in Note 5 and Note 6 of the financial statements but include such matters as the level of certainty as to the extent of losses. Loss assessors have performed assessments on all claims, however the extent of these assessments ranges from initial visual assessments, to full details reviews including structural engineering considerations. As such, the final extent of claims that would be subject to consideration by LAPP is still being quantified.

Changes in Accounting Policies

There have been no changes in accounting policies during the year. All policies have been applied on a basis consistent with previous years.

NOTES TO THE SPECIAL PURPOSE FINANCIAL STATEMENTSFOR THE YEAR ENDED 30 JUNE 2012 (*continued*)**NOTE 2. NATURE OF ACTIVITIES**

The primary purpose of the Fund is to provide cover to member local governments for losses or damage to infrastructure assets resulting from flooding, earthquakes and other damaging events.

NOTE 3. RECONCILIATION OF NET SURPLUS TO NET CASH INFLOW FROM OPERATING ACTIVITIES

	2012	2011
	\$	\$
Net Surplus	4,284,696	(39,300,338)
Items included in Investing Activities		
Investment Income	-	(1,685,265)
	-	(1,685,265)
Add/(less) movements in other working capital items		
Accrued Interest	(88,235)	206,685
GST Receivable	(23,810,170)	(1,173,102)
New Entrant Additional Contributions	-	185,820
Accounts Receivable	76,732,935	(449,119,862)
Accounts Payable & Provisions	(82,365,030)	479,295,034
	(29,530,500)	29,394,575
NET CASH FLOW FROM OPERATING ACTIVITIES	(25,245,803)	(11,591,028)

NOTE 4. CLAIMS AND REINSURANCE RECOVERIES

There are considerable uncertainties surrounding the measurement of gross claim liabilities and the related reinsurance recoveries arising from the Canterbury earthquakes. These arise from a number of factors including; longer than normal claim development periods; the presence and frequency of aftershocks; the extent of damage; the ability of risk assessors to access damaged sites, some of which are below ground and have not yet been excavated; the ability for loss assessors to access and fully assess all sites; and the extent to which losses will be met by the Earthquake Commission.

Gross outstanding claims liabilities for Christchurch totals \$454 million (2011: \$488 million) which is the majority estimate of outstanding claims liabilities arising from the Canterbury earthquakes. This estimate represents loss assessors estimates as at 30 June 2012 of what LAPP will ultimately pay, prior to receiving any reinsurance recoveries, in relation to these claims. The estimates or projections are based on the known facts and circumstances and assumptions regarding future events and key variables as detailed in Note 1.

Given the nature and number of uncertainties associated with the Canterbury earthquakes, the actual claims experience may deviate, perhaps substantially, from the gross outstanding claims liabilities as at 30 June 2012. Any changes to estimates will be recorded in the accounting period when they become known.

After reinsurance and other recoveries, the net outstanding claims liabilities in relation to the Canterbury earthquakes amounts to \$24.2 million as at 30 June 2012 (\$24.7 million as at 30 June 2011).

NOTES TO THE SPECIAL PURPOSE FINANCIAL STATEMENTSFOR THE YEAR ENDED 30 JUNE 2012 (*continued*)**NOTE 4. CLAIMS AND REINSURANCE RECOVERIES (*continued*)**

	2012	2011
	\$	\$
Claims – below ground (Chch EQ 4 Sept 2010)	-	109,000,000
Reinsurance Recoveries	-	(96,000,000)
	-	13,000,000
Claims – below ground (Chch EQ 22 Feb 2011)	-	109,000,000
Reinsurance Recoveries	-	(97,250,000)
	-	11,750,000
Claims – below ground (Other)	1,110,318	3,054,118
Reinsurance Recoveries	-	-
	1,110,318	3,054,118
Claims – above ground (Chch EQ 4 Sept 2010)	(4,207,937)	42,439,347
Reinsurance Recoveries	4,207,937	(35,239,347)
	-	7,200,000
Claims – above ground (Chch EQ 26 Dec 2010)	589,416	771,086
Reinsurance Recoveries	-	-
	589,416	771,086
Claims – above ground (Chch EQ 22 Feb 2011)	177,018,971	231,277,855
Reinsurance Recoveries	(177,018,971)	(224,077,855)
	-	7,200,000
Claims – above ground (Chch EQ 13 June 2011)	7,759,565	25,969,500
Reinsurance Recoveries	(7,759,565)	(18,769,500)
	-	7,200,000
Claims – above ground (Other)	60,599	714,045
Reinsurance Recoveries	(118,318)	(32,198)
	(57,719)	681,847
Gross Claims	182,330,932	522,225,951
Reinsurance Recoveries	(180,688,917)	(471,368,900)
NET CLAIMS	1,642,015	50,857,051

The trustees have resolved to cap the below ground claims for 4 September 2010 and 22 February 2011 at \$109 million, which is the maximum level of reinsurance available.

NOTES TO THE SPECIAL PURPOSE FINANCIAL STATEMENTSFOR THE YEAR ENDED 30 JUNE 2012 (*continued*)**NOTE 5. REINSURANCE RECOVERIES RECEIVABLE**

	2012	2011
	\$	\$
Reinsurance Recoveries	406,419,333	471,368,900

Details of the uncertainties that exist in measuring reinsurance recoveries arising from the Canterbury earthquakes are explained in Note 4.

The Fund is currently in negotiations with two of its reinsurers for the settlement of outstanding reinsurance recoveries receivable. The Fund is currently seeking all possible redress through its Brokers and the Courts to ensure the prompt settlement of the amounts being claimed under the reinsurance contracts. The Fund has sought professional legal advice which confirms that the Fund has a strong legal position. On the basis of this advice, the Trustees have assessed that no provision is required against the amounts outstanding. In the event of the Fund being unsuccessful with the actions listed above, the Fund believes it has a number of other alternatives to seek redress.

NOTE 6. PROVISION FOR CLAIMS

	2012	2011
	\$	\$
Opening Balance	496,081,110	1,317,000
<i>Less: Claims Paid</i>		
Below ground (Chch EQ 4 Sept 2010)	(79,557,188)	(9,385,663)
Below ground (Chch EQ 22 Feb 2011)	(79,010,273)	(8,127,129)
Below ground (Other)	(812,750)	(817,325)
Above ground (Chch EQ 4 Sept 2010)	(4,800,807)	(2,988,258)
Above ground (Chch EQ 26 Dec 2010)	(8,904)	-
Above ground (Chch EQ 22 Feb 2011)	(75,767,097)	(5,799,501)
Above ground (Chch EQ 13 June 2011)	(8,485,728)	-
Above ground (Other)	(315,966)	(311,767)
	<u>(248,758,713)</u>	<u>(27,429,643)</u>

NOTES TO THE SPECIAL PURPOSE FINANCIAL STATEMENTSFOR THE YEAR ENDED 30 JUNE 2012 (*continued*)**NOTE 6. PROVISION FOR CLAIMS (*continued*)**

	2012	2011
	\$	\$
<i>Plus: New Claims Received and Agreed</i>		
Below ground (Chch EQ 4 Sept 2010)	-	109,000,000
Below ground (Chch EQ 22 Feb 2011)	-	109,000,000
Below ground (Other)	1,110,319	3,054,118
Above ground (Chch EQ 4 Sept 2010)	(4,207,937)	42,439,347
Above ground (Chch EQ 26 Dec 2010)	589,416	769,721
Above ground (Chch EQ 22 Feb 2011)	177,018,971	231,277,855
Above ground (Chch EQ 13 June 2011)	8,677,315	25,969,500
Above ground (Other)	<u>61,008</u>	<u>683,212</u>
	183,249,092	522,193,753
CLOSING BALANCE	430,571,489	496,081,110

Claims payments are made as claims are quantified and approved by the Trustees.

NOTE 7. RELATED PARTIES

Administration fees of \$394,423 (2011: \$316,035) relate to the New Zealand Local Government Insurance Corporation Limited, trading as Civic Assurance (Civic). Civic is the Administration Manager of the Fund.

NOTE 8. FINANCIAL INSTRUMENTS

The Fund is involved with a number of financial instruments in the course of its normal activities.

Fair Value

The carrying amounts of all financial assets and liabilities are considered to be equivalent to their fair value.

Credit Risk

Financial instruments which potentially expose the Fund to credit risk consist of cash, short term deposits, receivables and investments in managed funds. The maximum exposure to credit risk is the carrying value of these financial instruments. All investments and short term deposits are with high credit quality counterparties.

Interest Rate Risk

The Fund is exposed to interest rate risk in that future interest rate movements will affect cash flows and net market values of fixed interest assets and, indirectly, the valuation of investments in managed funds which invest in cash and fixed interest investments. The intention of the Trustees is not necessarily to hold these assets to maturity, but to realise and purchase similar assets as part of the on going management of the investments of the Fund. There is no maturity period for unitised investments.

NOTES TO THE SPECIAL PURPOSE FINANCIAL STATEMENTS

FOR THE YEAR ENDED 30 JUNE 2012 (continued)

NOTE 8. FINANCIAL INSTRUMENTS (continued)

	Effective Interest Rate 2012	2012 \$	6 months or less \$	6 – 12 months \$	1 – 2 years \$	Non-Interest Bearing \$
Financial Assets						
Bank	3.0%	3,475,621	3,475,621	-	-	-
Receivables	-	407,817,250	-	-	-	407,817,250
Total financial assets		411,292,871	3,475,621	-	-	407,817,250
Financial Liabilities						
Payables	-	3,068,124	-	-	-	3,068,124
Provision for Claims	-	430,571,489	-	-	-	430,571,489
Total financial liabilities		433,639,613	-	-	-	433,639,613
NET FINANCIAL POSITION		(22,346,742)	3,475,621	-	-	(25,822,363)

	Effective Interest Rate 2011	2011 \$	6 months or less \$	6 – 12 months \$	1 – 2 years \$	Non-Interest Bearing \$
Financial Assets						
Bank	2.8%	2,416,426	2,416,426	-	-	-
Short Term Cash Deposits	4.0%	26,305,000	26,305,000	-	-	-
Receivables	-	484,550,185	-	-	-	484,550,185
Total financial assets		513,271,611	28,721,426	-	-	484,550,185
Financial Liabilities						
Payables	-	1,223,934	-	-	-	1,223,934
Provision for Claims	-	496,081,110	-	-	-	496,081,110
Total financial liabilities		497,305,044	-	-	-	497,305,044
NET FINANCIAL POSITION		15,966,567	28,721,426	-	-	(12,754,859)

Liquidity Risk

Liquidity risk is the risk that the Fund will encounter difficulty in meeting obligations from its financial liabilities.

NOTES TO THE SPECIAL PURPOSE FINANCIAL STATEMENTS

FOR THE YEAR ENDED 30 JUNE 2012 (continued)

MANAGEMENT OF LIQUIDITY RISK

The Fund's approach to managing liquidity is to ensure, as far as possible, that it will always have sufficient liquidity to meet its liabilities when due, under both normal and stressed conditions, without incurring unacceptable losses or risking damage to the Fund's reputation. The Fund manages this risk as they have discretion in the total amount of claims paid, in accordance with the Trust Deed. This Deed enables the Trustees to ensure sufficient liquidity and reserves are retained by the Fund. Additionally, cash and short term deposit reserves are maintained at sufficient levels to ensure all such claims can be met.

NOTE 9. COMMITMENTS AND CONTINGENT LIABILITIES

The Fund has the ability to provide support to Members based on its reserves and its ability to make reinsurance recoveries. For the period from 30 June 2012 to 30 June 2013, proportional reinsurance is in place for 66% of a total claim that falls between \$50 million and \$100 million. Neither the fund nor the reinsurance will provide cover for Waimakariri District Council or Christchurch City Council's assets which are damaged as a result of an earthquake or volcanic eruption. The reinsurance contract has one automatic reinstatement, so in the event of a reinsurance claim there would be further cover for a second reinsurance claim, but the cost of up to \$3.22 million for putting this cover in place would be deducted from the first claim. The protection will only be available to Members at the discretion of the Trustees exercised in accordance with the provisions of the Trust Deed.

NOTE 10. CONTINGENT ASSETS

The Fund is currently engaged in a claim against the Auckland Council in respect to the settlement of the 2011 Contribution for \$1,068,283.30. This claim is currently before the courts with a court date of 15 July 2013. The outcome of this action is unknown at this time. The Fund continues to believe it has a strong case against the Auckland Council in respect to the 2011 contribution and has recognised the revenue and receivable due from Auckland Council in this respect.

NOTE 11. EVENTS AFTER BALANCE DATE

Following consultation with its members, from 1 July 2012 for at least the current fund year LAPP has opted for a mix of self reinsurance and reinsurance cover. This option was adopted as a means of facilitating the re-establishment of LAPP. There have been no other significant events after balance date.

NOTE 12. GOING CONCERN

The Trustees determined that as a result of a meeting of members held in May 2011 at which the members gave strong support for the continuance of the Trust, the Trust is a going concern. To support this opinion a significant increase in Members' contributions for the 2011/12 year was agreed thereby enabling the commencement of the rebuilding of the Fund from the projected surplus. The rebuilding continues for the 2012/13 year.

TRUSTEE INFORMATION

The Trustees and their nominating bodies are:

LD Cavers	SOLGM	CEO, Hauraki District Council
JH McFarlane	SOLGM	Manager, Legal and Corporate, Waipa District Council
DA Lott	Civic Assurance	Company Director
KN Sampson MNZM	Civic Assurance	Former Chairman, Civic Assurance
LA Yule	LGNZ	Mayor, Hastings District Council and President, Local Government New Zealand
Vacant	LGNZ	

During the year, the Trustees met for formal meetings on 8 occasions.

Attendance was:

LD Cavers	8
DA Lott	8
IRF McKelvie (resigned 21 December 2011)	1
KN Sampson	8
LA Yule	8
JH McFarlane (appointed 9 February 2012)	5

2011 – 2012 FUND YEAR MEMBERSHIP

Ashburton District Council	Invercargill City Council	South Wairarapa District Council
Auckland Council	Kaikoura District Council	Stratford District Council
Bay of Plenty Regional Council	Kapiti Coast District Council	Tararua District Council
Buller District Council	Kawerau District Council	Tasman District Council
Carterton District Council	Manawatu District Council	Tauranga City Council
Central Hawke's Bay District Council	Marlborough District Council	Thames Coromandel District Council
Christchurch City Council	Masterton District Council	Timaru District Council
Clutha District Council	Matamata-Piako District Council	Upper Hutt City Council
Environment Southland	Nelson City Council	Waikato Regional Council
Gisborne District Council	New Plymouth District Council	Waimakariri District Council
Gore District Council	Opotiki District Council	Waimate District Council
Grey District Council	Otorohanga District Council	Waipa District Council
Hastings District Council	Palmerston North City Council	Wairoa District Council
Hauraki District Council	Porirua City Council	Waitaki District Council
Hawke's Bay Regional Council	Rangitikei District Council	Waitomo District Council
Horizons Regional Council	Rotorua District Council	Wanganui District Council
Horowhenua District Council	Ruapehu District Council	Westland District Council
Hurunui District Council	South Taranaki District Council	Whakatane District Council
Hutt City Council	South Waikato District Council	Whangarei District Council

This paper was presented to the Conference of the New Zealand Society of Actuaries on 20 November 2012

Abstract: LAPP (the Local Authority Protection Programme Disaster Fund) is a mutual risk pool set up by and for local authorities. It covers New Zealand local authority water management assets such as potable water, wastewater and stormwater pipes and flood protection assets such as stopbanks. Cover is provided through a disaster fund created from member contributions, top up reinsurance purchased on the open market, and mutual self-insurance between members. New Zealand is subject to a wide range of natural hazards, which the paper describes in some detail.

Tim Sole
17 November 2012

INTRODUCTION

The Local Authority Protection Programme Disaster Fund (LAPP) is one of two mutual risk pools available to New Zealand councils. The other is called Riskpool, which provides cover to member councils for liability claims. LAPP is a membership organization set up specifically to support local authorities' requirements to respond to their share of the costs of restoring essential infrastructure assets following a major disaster.

Mutual risk pools are an alternative to insurance. The website for the North American Association of Governmental Risk Pools states that there are close to 500 governmental risk pools in the USA. Such pools come into their own when insurance is not available, is available but excessively priced, or is only available with very restrictive policy conditions.

The value (and also the limitations) of LAPP was proved after the 2010 and 2011 Canterbury earthquakes. Scientific advice prior to September 2010 was that Christchurch City Council could expect \$40 million of damage to its essential infrastructure in a 1 in 1,000 year earthquake. The actual damage to Christchurch City Council's essential infrastructure from the 2010 and 2011 Canterbury earthquakes exceeds \$1 billion.

The need for LAPP is because of New Zealand's high exposure to natural hazards. As far as I know, New Zealand is the only country in the world where local authorities have a form of insurance for their underground assets (primarily the pipes for fresh water, wastewater and stormwater). Information on a range of potential hazards is appended.

LAPP provides intellectual challenges ideally suited for an actuarial brain: the requirement for member equity when members are by no means homogeneous, dealing with imprecise data, recommending and negotiating reinsurance covers, determining an appropriate 'pace of funding', advising on the trust deed, and recommending a suitable investment philosophy. Managing LAPP effectively requires a good working relationship with council asset managers, engineers, finance managers and scientists and the ability to provide clear explanations of the matters above to the trustees of the Fund and its members.

EMERGENCY MANAGEMENT IN NEW ZEALAND

Until the early 1990s, central government took responsibility for all costs associated with the restoration of water and sewage services, along with the other services considered essential to the community that were otherwise uninsurable. That changed when the government reviewed the methodology and responsibility for restoration of community infrastructure in 1991. Following that review a whole new emergency management process was set in place and a much greater onus placed on local authorities.

The strategy for Civil Defence Emergency Management (CDEM) has been evolving since then with the objective of improving the mechanisms to respond to the impacts of catastrophes. The strategy comprises a comprehensive framework to improve individual, community and business preparedness for such events and provides the overall direction for civil defence emergency management in New Zealand.

Significant legislation supports the strategy, including the Resource Management Act 1991, the Civil Defence Emergency Management Act 2002, the Local Government Act 2002 and the Building Act 2004. Emergency management arrangements assign responsibilities across local communities, local authorities and central government. Alongside these Acts, many other statutes set out further functions, roles and responsibilities for the individuals and agencies that might need to be involved.

The National CDEM Plan and Guide are two of the key mechanisms contributing to the goals of the national CDEM strategy, and these are available online. The strategy uses the so-called '4Rs' (reduction, readiness, response and recovery) to describe the emergency management cycle. The approach has resulted in an effective sharing and coordination of responsibility between central government, local government and other organizations such as the police, St John's, welfare agencies, radio stations, and so forth. Through regional CDEM plans, these organizations have developed plans to achieve the common goal of restoring assets and services as quickly as possible following a catastrophe, with minimum disruption and cost to the community.

Under the national CDEM strategy, overall responsibility for emergency management moves from local to national government depending on the nature of the emergency or risk reduction programme. For example, a severe storm may be manageable within a particular area, whereas a large regional event such as widespread flooding or a major earthquake may be coordinated nationally through the National Crisis Management Centre operated by the Ministry of Civil Defence & Emergency Management. Within each region, local governments are unified into Civil Defence Emergency Management Groups (CDEMGs). Every CDEMG is responsible for ensuring that local emergency management is as robust as possible. These structures are defined by national regulation.

THE BIRTH OF LAPP

Under the Guide to the National CDEM Plan, full responsibility in the first instance for repairing or replacing their essential infrastructure following a natural disaster was placed on local authorities. However, central government simultaneously undertook to contribute 60% of reinstatement costs above a certain threshold following a major catastrophe, provided the local authority could demonstrate it could meet the remaining 40% through the provision of reserve funds, effective insurance, or participation in a mutual assistance scheme with other local authorities.

Government policy stated the following may be eligible for government assistance:

- Repair or recovery of essential infrastructure assets, which would include water, stormwater, electrical, sewerage and gas facilities, and other structures such as retaining walls and tunnels upon which essential services depend. These assets must be local authority assets, which are not the property of trading utilities;
- Repair or recovery of river management systems (including drainage schemes that are part of integrated river systems) where there is major community disruption or continuing risk to life; and
- Repair or recovery of other community assets damaged as a consequence of the failure of flood protection schemes.

LAPP: WHY AND HOW *(continued)*

A working party formed from local government interest groups considered the means by which local authorities could meet their 40% obligation. This resulted in the formation of LAPP, which commenced operations on 1 July 1993. The Fund was established to enable local authority members to pay their share of infrastructure replacement costs for water, sewerage and other uninsurable essential services damaged by natural disaster.

The concept of a mutual fund structured as a charitable trust with annual contributions was considered the best option of the many that were studied by the working party. It was seen to have the following advantages:

- It is cost effective – there are no profit motives or commissions, a charitable trust has tax-exempt status, there are much lower overheads to cover when compared to an insurance company, and investment income is retained;
- Greater certainty for both coverage and costs compared to the uncertainties of the insurance cycle;
- Management by local-government-appointed trustees;
- A collective approach means improved risk management practices can be implemented;
- The costs of disasters are spread over time and throughout New Zealand;
- A collective approach means better terms can be procured for reinsurance protection;
- Funds are locked in under the trustees' control and are specifically to be used for the repair or replacement of local authority infrastructure assets, thus preventing the raiding of such funds for opportunistic, unrelated purposes.

THE MECHANICS OF LAPP

LAPP is a charitable trust registered under the Charitable Trust Act 1957, and the functions of the Fund are overseen by six trustees appointed by local government agencies. The Fund is governed by a trust deed, copies of which can be found on LAPP's website, www.lappfund.co.nz. Civic Assurance is the fund administrator under the trust deed and the settlor of the trust is Local Government New Zealand (LGNZ), whose consent is required for any changes to the trust deed.

Membership of LAPP is restricted to local authorities and Council Controlled Organizations (CCOs). Of the 78 local authorities in New Zealand, 58 are currently Fund members. Membership of the Fund remains open.

LAPP provides catastrophe protection only, covering serious disruptive loss or damage caused by sudden events or situations that may or may not involve the declaration of a Civil Defence Emergency. Cover includes temporary emergency repairs. The value of assets covered by LAPP is approximately \$20 billion.

Covered perils include, but are not necessarily limited to, earthquakes, storms, floods, cyclones, tornadoes, volcanic eruptions, tsunamis and other disasters of a catastrophic nature. Where required by a member, LAPP covers the following asset categories:

- Water reticulation, treatment and storage;
- Sewage reticulation and treatment;
- Stormwater drainage;
- Dams and canals;
- River systems;
- Flood protection schemes including stopbanks;
- Floodgates, seawalls and harbour risks such as buoys, beacons and uninsurable foreshore lighthouses.

Roads and bridges are not covered by the Fund as local authorities have access to subsidies via the New Zealand Transport Agency.

As a condition of Fund membership the trustees require that all member authorities undergo a full risk management programme. As a result, high risk exposures are identified and remedial action, as far as practicable, is taken to minimize the impact of a natural disaster on communities and help reduce the potential drain on the Fund.

MEMBER CONTRIBUTIONS

The first step in calculating member contributions is for the Fund's trustees to determine what that year's total contributions should be. The trustees' decision will depend on the actual size of the Fund, the target size of the Fund, the desired timeframe for reaching that target, the cost of reinsurance, the assessed residual risk after allowing for reinsurance cover, the Fund's estimated expenses for that year and the Fund's expected investment income.

Each member's share of the total contribution is then assessed based on the value and type of the assets they want covered, the exposure of those assets to the various natural hazard risks, the member's concentration risk, the administration and risk management overheads, the reinsurers' cost of capacity, the fact that LAPP's cover to members is currently capped at 40% of \$250 million = \$100 million, and an allowance for the additional costs that occur above 'business as usual' costs in a major disaster. Deductibles for 2012 were set as the greater of the government deductible for the government's 60% cover, the member's 1 in 20-year flood risk and half of the member's 1 in 100-year earthquake risk.

The Trustees look to make contributions as equitable between members as they can.

Contributions received by LAPP between 1 July 1993 and 30 June 2011 totalled \$59 million and claims for that period were almost four times that number. In 1993 contributions were \$2.9 million for 43 members, which equates to \$103,000 per member in 2011 dollars. For 2010–11, annual contributions were \$3.4 million for 59 members, which is \$59,000 per member. With the benefit of hindsight, annual contributions in 2010–11 equating to \$1 million for every \$4.8 billion of assets were too low.

MUTUAL SELF-INSURANCE

Following the Canterbury earthquakes, the price of LAPP's reinsurance programme increased five-fold. This year, the proposed increase was at least another 25%. Such increases will never be welcome, but they came at a time when LAPP needed to rebuild its disaster fund and when LAPP's investment income had dropped considerably.

LAPP's members faced three options: find the extra money at a time when all their other insurance costs were considerably higher, self insure, or enter a mutual self-insurance option as described below.

Self-insurance for councils' essential infrastructure is not recommended. When a catastrophe occurs there will be many uninsured items for councils to cover, while at the same time there is likely to be lost revenues. For example, the closure of Christchurch CBD after the February 2011 earthquake has cost the Council around \$25 million in lost parking revenues; rate relief for earthquake affected properties has also cost Christchurch City Council many millions of dollars.

LAPP's mutual self-insurance programme was introduced for 2012-13. In summary, if a member suffers significant damage to reticulation and/or flood protection works, then all members, in proportion to their annual contributions to LAPP, agree to contribute to the repair cost once it exceeds a certain threshold.

LAPP: WHY AND HOW *(continued)*

The threshold at which members are required to contribute additional funds is determined by two factors. Firstly, the claimant's own deductible, and secondly, by such amount as would first be met by the LAPP Fund. For 2012-13, given the diminished size of its disaster fund, LAPP is absorbing no more than \$5 million per event.

Members' contributions for 2012-13 totalled \$9 million and LAPP's 2012-13 reinsurance is for claims of over \$50 million. (Note: because broadly speaking councils meet 40% of claims and central government 60%, a \$50 million deductible requires at least a \$125 million event.) Therefore, if members are asked to contribute to a claim this year (estimated as a 5% chance), the amount to be raised from members is limited to \$45 million (= \$50 million – \$5 million), which is a maximum of five times members' annual contributions.

The average annual long-term funding cost of LAPP will depend on how much risk is insured (rather than self-insured), the size and timing of LAPP's future claims, and the income LAPP is able to generate on its disaster fund. The estimate if LAPP relied entirely on its disaster fund and mutual self-insurance is for a long-term funding cost of around \$4 million p.a. compared to around \$20 million p.a. if LAPP relied entirely on insurance (assuming current insurance/reinsurance costs). This difference arises because the cost of reinsuring rare events is currently of the order of three to eight times the actual risk.

It should be stated that the reinsurers charges are not necessarily unreasonable, and not just because their losses from the Canterbury earthquakes were huge. Reinsurance costs what it costs because a purchase of reinsurance is also a purchase of a line of credit, and capacity comes at a price. That price, with the certainty and peace of mind it brings, may still be worth paying and so, as LAPP has found, there can be a case for using both reinsurance and mutual self-insurance.

RISK MANAGEMENT

LAPP's administrator and risk advisers work with organizations such as the Institute of Geological and Nuclear Sciences (GNS Science) and the National Institute of Water and Atmospheric Research (NIWA) to conduct risk assessments for large regional natural disaster scenarios including earthquake, volcanic eruption and tsunami.

The expected cost of earthquake damage to infrastructure for a large regional earthquake is based on research by GNS Science. This estimates earthquake damage by location, soil conditions and asset type. The research includes the latest information from around the world and incorporates the results of research from recent earthquakes such as those in Seattle, California, Kobe and Canterbury. The research by GNS Science for the LAPP Fund has been ongoing since the year 2000. It ensures that the best available research is incorporated into earthquake risk assessment for LAPP and its members.

Flood risk is assessed by each member authority based on guidelines originally developed in 1994 by a LAPP flood special focus group. The members of the flood special focus group were engineering representatives from various member authorities. This methodology was reviewed by a new flood special focus group in 2005 and is currently being reviewed again. The use of engineers from member authorities ensures that local knowledge and experience is incorporated in the flood risk assessment.

GNS Science has also developed models to estimate expected losses from volcanic eruption, particularly where ash may fall and to what depth. (LAPP's interest in ash falls is that large quantities of ash have the potential to block stormwater systems.) LAPP has also used research by NIWA to estimate expected losses from tsunami events. The Fund also contributes to the costs of reconnaissance visits by GNS scientists to locations affected by major natural disasters so that experience from these events can be incorporated into the New Zealand infrastructure risk assessment models.

The Fund has an ongoing risk management programme that includes annual updates of asset schedules and visits to every member every three to four years. These visits are used to obtain information on asset values and asset management practices and any natural hazard studies that may have been completed to manage risks to local infrastructure. As a result of these visits, LAPP's risk advisers prepare asset and risk profiles for each member, and they help to facilitate the exchange of risk management ideas between councils, as do the annual LAPP member meetings.

All members have also had the opportunity to participate in a risk management benchmarking exercise in 2006 and 2009. This enables them to compare their risk management performance to that of other local authorities based on a comparison with guidance provided in the risk management standards NZS/AS 4360:2004 and NZS HB 4360:2000. 2006 was the first time that such a risk management benchmarking exercise for infrastructure assets had been undertaken for local authorities in New Zealand.

ASSET VALUATIONS

Asset valuations for underground and flood protection assets are a lot more complex than one might imagine.

Underground pipes can be concrete, clay earthenware, metal or plastic and can have diameters from a few centimetres to well over a metre. The cost of replacing/repairing pipes depends on how deep they are laid and whether they are laid for example in clay or sand. If in a sandy soil, the trench in which the pipes are placed is likely to need sheet piling and dewatering, which is expensive. Unfortunately it is the sandy soils that are prone to liquefaction and therefore where the pipes are more likely to be damaged in an earthquake.

Pipes don't necessarily have to break to need repair: if the ground has re-settled or the pipes have moved following liquefaction for example and the pipes are gravity fed then they may need to be re-laid to get the required gradients. If as is usually the case there is evidence that some pipes were already damaged, then the question will be asked as to who should pay for what. And when a pipe is repaired, is it one break every hundred meters or one break every three meters that determines when a pipe is replaced rather than repaired? (And sometimes you won't know where the next break is until the first break is repaired.)

Most pipes are underground and so are not easily inspected. Many pipes are under roads or have had buildings placed over them since they were laid and many of New Zealand's older reticulation systems are not necessarily that well mapped. Some pipes are on river or sea beds and others are carried on bridges.

Stop banks may be protected by what engineers call 'sacrificial assets' – a term not designed to endear potential insurers! If rocks placed on a river bend are subsequently washed away in a flood, who is to say what quantity of rock was there before the flood? Trees planted between a stop bank and a river bed will mitigate the impact of flood water until they are washed away and may only cost \$10 each to replace. In the 2004 Manawatu floods however, 400,000 of such trees were washed away.

LAPP: WHY AND HOW *(continued)*

CLAIMS

From 1993 to June 2010, there were eight events leading to claims on the LAPP Fund. Six of these were due to flood damage, one was the result of tsunami damage to a water pipeline, and one followed wastewater pipe damage from a series of earthquake swarms.

The largest claim before the Canterbury earthquakes was made in 2004 by Horizons MW Regional Council following damage to its flood control assets on the Lower Manawatu Scheme. LAPP paid approximately \$4.8 million for its 40% share of this claim. Additional but relatively modest claims were also paid to other LAPP members affected by these floods.

The LAPP earthquake claims in 2010 and 2011 each exceeded the reinsurance threshold of \$109 million (this is at the 40% level, so at the 100% level exceeded \$272.5 million). The greatest damage was to wastewater pipes affected by liquefaction. In the eight months to February 2011, five claims for flood damage for a total of \$3 million were also made to LAPP. The number of flood claims was higher than in previous years, in part because of unusual weather, but mainly because for that period LAPP was applying lower deductibles.

The Fund has published procedures and information requirements for making a claim on its website. These requirements are similar to the requirements of central government for it to pay a claim on its 60% share, meaning members need only complete a single set of documentation for LAPP and central government.

The LAPP Fund uses professional loss adjusters to inspect damaged sites, assess claims and to liaise with members when they make a claim. The loss adjusters then report to the trustees of the Fund with their recommendations on the amount of claim that is payable.

REINSURANCE

Excess of loss reinsurance protection is purchased to enhance the Fund's ability to meet claims. The level of protection purchased depends on the losses estimated for large regional loss scenarios, the contingency margin determined by the trustees, the capacity available from the global reinsurance markets from time to time and the price required to purchase the reinsurance cover.

On 1 July 2010, LAPP had reserves of approximately \$40 million and a \$96 million excess of loss reinsurance programme with one automatic reinstatement for protecting local authorities' 40% responsibility. At the 100% level this equated to up to \$340 million of cover for one event or up to \$580 million for two events. The reinsurance bought was thought to contain generous contingency margins (both by LAPP and its reinsurers), but as we now know these limits were exceeded by the Canterbury earthquakes of 2010 and 2011. We also better appreciate that the probability of back-to-back major earthquakes is far from insignificant, because aftershocks themselves can be very damaging, and because of the effects earthquakes can have on the stress levels of nearby fault lines.

The most cost-effective way for local authorities to access the reinsurance market is through a nationwide collective programme. It is not only that the price is cheaper this way, but most LAPP members also benefit from much higher levels of protection than if they were arranging the cover themselves. It can only be speculation, but had Christchurch City Council not been a member of LAPP and relied on having its own insurance, then following the Canterbury earthquakes its insurance payout for below-ground infrastructure would probably have been over \$100 million less than the amount it claimed from LAPP.

LAPP has also been able to save its members money by self-insuring a reinsurance deductible at a level much higher than most individual members would be prepared to accept and by the use of a mutual self-insurance scheme as discussed above.

SUMMARY

All of New Zealand is exposed to natural hazards. This was well understood before the Canterbury earthquakes, of course, but only in the sense that an event might happen rather than it would happen. Any such complacency has now gone, at least for the time being. We don't know where and we don't know when, but we know there will be more disasters that cause major damage to local authority infrastructure for which local authorities will need to pay. We also know that the least painful way for councils to fund this is through the use of a shared facility with regular, equitable contributions. A well run charitable trust such as LAPP is the most effective way to achieve this.

APPENDIX – potential hazards

The first version of this Appendix was completed in the second half of 2010 as part of ‘Assuring and Enduring’, a book celebrating the first fifty years of Civic Assurance’s history. (Civic is the manager of the LAPP Fund.) The series of Canterbury earthquakes meant that this book needed to be revised several times. What surprised me was how quickly the material on hazards seemed to go out of date, with new major events, at least in that period, happening every few weeks.

I have therefore mostly not updated the material below, which went to print in February 2011. The message would still be the same anyway – the hazards threat is wide and very real.

EARTHQUAKES

Geologists tell us that beneath the Earth’s surface there are seven major tectonic plates and many minor ones.

These plates are between 15 and 100 km thick, and in short timeframes (geologically speaking) they only move in one direction. Their speed of movement is slow, about the rate that fingernails grow, but over time that is enough for their edges to bump and grind into each other, for stress to build up, and then for earthquakes to occur.

New Zealand rests on two tectonic plates: the Australian Plate and the Pacific Plate. East of the North Island, the Pacific Plate is slowly going under the Australian Plate, and south of the South Island it is the other way round. The Alpine Fault, which runs for about 650 km along the spine of the South Island, is the ‘on-land’ boundary of the two plates.

In the last 12 million years the Southern Alps have risen an amazing 20,000 metres (more than twice the height of Mt Everest) and only the fast pace of erosion has kept the highest point of the Southern Alps below 4000 metres. In the last 900 years (approximately AD 1100, 1450, 1620 and 1717) this area has produced four very large earthquakes (magnitude 8 or thereabouts on the Richter Scale). Geologists believe that the Alpine Fault has a 20% probability of having another very large earthquake in the next 20 years.

Earthquakes do not just happen on fault lines, however; they also happen away from the fault lines, where they are known as ‘intra-plate’ or ‘continental’ earthquakes. Regional examples are the Newcastle (New South Wales, Australia) earthquake of 1989 (magnitude 5.6; damage exceeding A\$4.7 billion in 2011 prices) and the four earthquakes that have occurred in Adelaide since 1837. The 1837 earthquake was not measured, but the shaking is reported to have lasted 20 seconds. Adelaide had further earthquakes in 1897 (magnitude 6.5), 1902 (magnitude 6.0) and 1954 (magnitude 5.5, with damage exceeding A\$500 million in 2011 dollars). Causing much less damage because it was in an isolated area, the earthquake in Meckering in Western Australia in 1968 measured 6.8, had a fault length of 37 km, and a maximum surface displacement of 2.5 metres. Tennant Creek, Northern Territory, had three earthquakes in 1988 measuring 6.3, 6.4 and 6.8 on the Richter Scale.

Other examples of earthquakes in unexpected places are in Britain in 1931, with a magnitude 6.1 earthquake 60 km out in the North Sea, and New Madrid in Missouri, USA, which had four intra-plate earthquakes of magnitude 7 between 16 December 1811 and 7 February 1812, causing 13,000 square km of countryside to be dramatically transformed. The biggest recorded earthquake occurred in Chile in 1960 and measured an astonishing 9.5 on the Richter Scale. The second biggest, which caused the devastating 2004 Boxing Day tsunami, occurred off the coast of Sumatra and measured 9.2.

The average frequency of earthquakes worldwide is a magnitude 8 once a year, and 19 with a magnitude of more than 7. New Zealand on average has a magnitude 8 earthquake once every hundred years, and a magnitude 7 or more every eight years. It should be noted that these numbers are averages only, and are based on a relatively short observation period. Between 9 March 1929 and 5 March 1934, a period of just under five years, New Zealand had five earthquakes of magnitude 7.1 or more. Of course the devastation caused by an earthquake depends not only on its size and depth, but on how many buildings and people are in the affected area, the soil type, and the one thing that humans can control: the building standards applied.

Comments on the more significant New Zealand earthquakes in recent times are provided in the following table, with most of this information being sourced from www.gns.cri.nz and the Insurance Council of New Zealand.

Date, Magnitude, Place and Depth	Comments
4 Sept 2010 22 Feb 2011 13 June 2011 23 Dec 2011 Magnitudes 6 - 7.1 Canterbury All 4 earthquakes 6 to 10 km deep	The first and largest of these earthquakes was centred in Darfield, 40 km west of Christchurch. It had a magnitude of 7.1 and was 10 km deep. The second and by far the most damaging overall, with the loss of 185 lives, had a magnitude of 6.3 and was centred 10 km southeast of the centre of Christchurch and 6 km deep. It was followed 13 minutes later and two hours later by aftershocks measuring 5.8 and 5.9 respectively. The 13 June earthquake had a magnitude of 6.3 and was centred 13 km from Christchurch. An aftershock on 23 December 2011 measured 6.0. Just the insured damage from these earthquakes exceeds NZ\$30 billion.
15 July 2009 Magnitude 7.8 Dusky Sound 12 km deep	The biggest earthquake since Murchison in 1929, and one of four in the region over magnitude 7 since 2003. Its remote location meant the total insured damage in 2011 prices was just NZ\$1.5 million.
20 December 2007 Magnitude 6.8 Gisborne 40 km deep	Felt from Auckland to Dunedin. One death from a heart attack, and 11 injuries. Insured losses in 2011 prices were NZ\$30.5 million, which was exactly half the insured losses from a storm event in July of that year.
2 March 1987 Magnitude 6.5 Edgecumbe 6 km deep	A large foreshock of magnitude 4.9 occurred seven minutes before the main shock, allowing a number of weak and poorly constructed buildings to be evacuated so that they were empty when they collapsed. No deaths, but 25 injuries requiring medical attention. Insured loss in 2011 prices was NZ\$330 million.
24 May 1968 Magnitude 7.1 Inangahua 10 km deep	Inangahua lies between Murchison and Westport on the west coast of the South Island. The earthquake triggered large landslides in the surrounding slopes, one of which claimed the lives of two people. Inangahua and Westport were evacuated when another massive slip dammed the Buller River, raising the river 30 metres above its normal level, causing fears that a sudden failure of the dam would flood these downstream settlements.

LAPP: WHY AND HOW *(continued)*

3 February 1931 Magnitude 7.8 Napier 20 km deep	In the Napier earthquake 256 died, 593 were hospitalized, and thousands were injured. The earthquake was followed by fires in Napier and Hastings that became uncontrollable as water pressure dwindled because of broken water mains. The earthquake deformed the surface of the land in the surrounding area, pushing up a dome 17 km wide and over 90 km long. The ground was raised by up to 2.7 metres near the mouth of the Aropoanui River, while at Hastings it sank as much as 1 metre. An aftershock 10 days later measured 7.3.
17 June 1929 Magnitude 7.8 Murchison Depth unknown	The largest earthquake in New Zealand since 1855. As with many of New Zealand's earthquakes, the damage was not as bad as it could have been because the worst-affected area was sparsely populated. Nevertheless, 15 people were killed, mostly in landslides and rockfalls.
23 January 1855 Magnitude 8.2 Wairarapa Depth unknown	Only one of the estimated five to nine deaths that occurred was in Wellington, caused by a falling chimney. Scientifically this was a very important earthquake because it was the first time the link between faulting and earthquakes was clearly recognised. Very large fault offsets have been measured: up to 6 metres vertically and 19 metres horizontally. A 4500 square km block of land was tilted and there was 1 to 1.5 metres' uplift around Wellington harbour, including what is now known as the Basin Reserve. There was also a local tsunami with run-ups of 5 to 10 metres in Cook Strait.

In New Zealand, 2010 and 2011 will be remembered as the years of the Canterbury earthquakes, which the Reserve Bank of New Zealand has estimated caused more than NZ\$30 billion of insured damage and collectively have been described as extremely geologically unusual. In January 2010 an earthquake of magnitude 7.0 is estimated to have killed 230,000 in Haiti, and in February the same year a huge earthquake in Chile measuring 8.8 killed 562 people and caused economic damage estimated at US\$15–30 billion. The Chile earthquake had 13 aftershocks with a magnitude exceeding 6 within seven days of the main quake. Japan's Tohoku earthquake in March 2011, of magnitude 9.0, caused five minutes of shaking in Tokyo, 372 km away, and a tsunami responsible for 20,000 deaths.

Although Wellington is seen as the highest insurance risk in New Zealand because of its proximity to a number of faults, recently the estimated probability of a major earthquake in Wellington in the next 50 years has been roughly halved. There are two reasons for this: recent research suggests that the Wairarapa Fault has a much higher return period than first thought, and secondly, the 1855 Wairarapa earthquake resulted in a (temporary) de-stressing of the Wellington faults.

Everywhere in New Zealand is exposed to an earthquake risk – no wonder the country is sometimes referred to as 'The Shaky Isles'.

TSUNAMIS

Before Boxing Day 2004, the word 'tsunami', which translates to 'harbour wave', was relatively unknown outside of Japan. That changed when an earthquake measuring 9.2 on the Richter Scale triggered deaths in 14 countries totalling an estimated 230,000 people. The cause was the 2004 Indian Ocean tsunami, with waves that reached 30 metres above sea level in some places.

On a smaller scale, but still massive, was the 2009 Samoa tsunami. It was reportedly triggered by a rare double earthquake of magnitudes 7.9 and 8 occurring off-shore in the Samoan Islands a couple of minutes apart. It took only 10 to 20 minutes for the tsunami to reach the Samoan coast; 226 lives were lost.

The Tohoku tsunami on 11 March 2011 was caused by a magnitude 9.0 earthquake centred 70 km off the coast of Japan. Waves reached heights of 40.5 metres and in some instances travelled 10 km inland, assisted by the coastline dropping 0.6 metres vertically over a stretch of 400 km; 20,000 people died and 125,000 buildings were destroyed. A nuclear plant at Fukushima survived the earthquake but was severely damaged by the following tsunami, with serious and ongoing leaks of radioactive material. According to Maplecroft, a risk researcher, of the 442 nuclear power stations in the world, 76 are located close to coastlines deemed vulnerable to tsunamis.

The biggest known wave from a tsunami occurred in 1958 when 30 million cubic metres of rock plunged 900 metres into Lituya Bay, off the Gulf of Alaska. The wave removed trees from the sides of the bay 524 metres above sea level. Alaska is also home to the third largest recorded earthquake in the world, measuring 9.2 on the Richter Scale. This earthquake, which happened in 1964, triggered a tsunami wave that destroyed the village of Chenega and killed 23 of the 68 people who lived there.

The most common causes of tsunamis are undersea earthquakes, undersea landslides, undersea volcanoes and meteorite impact. Tsunami waves travel in the open ocean at 600 to 700 km/h, slowing down to around 30 km/h when they encounter shallow water. How far inland they travel depends on the force of the tsunami and the terrain of the coast. The first wave is not always the highest. In Banda Aceh, which was hit by the 2004 Boxing Day tsunami, the waves surged 6 km inland.

It is estimated that since 1840 New Zealand has been hit by ten tsunamis of more than 5 metres. The figure is not precise because much of New Zealand's coastline over that time has been lightly populated. Using evidence found from Northland to Nelson, Dr Bruce McFadgen, a Wellington archaeologist, considers it very likely that around 500 years ago a huge tsunami came from the north with a wave height of around 25 metres, and surged inland up to 1 km.

The archaeological evidence is supported by traditional Maori accounts handed down from about 15 generations ago. In those days many Maori would have lived near or in the worst-hit areas: the coasts of Northland, Auckland, Coromandel and the Bay of Plenty. The archaeological evidence suggests that by the time this tsunami washed through Cook Strait it was still 10 metres high.

The 1960 Chile earthquake created a 5.5-metre wave in Lyttelton Harbour and also affected other harbours along the east coast, such as at Gisborne. An 1868 Chile earthquake caused a tsunami of up to 8 metres along New Zealand's east coast, taking 15 hours to cross the Pacific Ocean.

The 2010 Chile earthquake created two surges of 2 to 2.2-metre waves in Lyttelton Harbour in less than an hour, causing the high-tide mark to be reached from low tide in just 75 minutes. Resting on the seabed of Lyttelton Harbour are two pipes used to carry fresh water to Diamond Harbour. The damage to these pipes was over NZ\$1 million. The 2010 Chile earthquake also caused a tsunami in Japan, for which the damage was NZ\$100 million. It has been postulated that if it were not for the size and shallowness of the Campbell Plateau, which sits between the east coast of the South Island and the Chatham Islands, the damage to the South Island east coast from tsunamis originating from Chile would be worse.

According to NIWA, New Zealand is perhaps more at risk from tsunamis generated close to its shores. One such tsunami caused waves that reached 10 metres above the sea in the Gisborne region in 1947. Local tsunamis, because of their much shorter travel times to New Zealand's shores, leave little time for evasive action.

FLOODS

Why is it that so many New Zealanders at some stage in their lives find themselves or their houses in the way of a flood? The answer is that nearly 70% of New Zealanders live in areas prone to flooding. The reasons for this are historical. Early settlements were built near lakes and rivers because of the easy access to fishing and fresh water, and the flat flood plains with generally fertile soil seemed a good place to settle (at least initially). Also, rivers can be used for transport, and where there is transport there is trade and trading stations; it is from these small settlements that many towns and cities developed.

Floods are both New Zealand's and the world's most frequent and costly natural hazard. The two deadliest natural hazard disasters in history were floods: the 1887 Yellow River flood in China, when upwards of 900,000 lives were lost (a number slightly higher than the 830,000 reported killed in the world's deadliest earthquake, which was the 1556 Shaanxi earthquake), and the 1931 China floods, where one estimate put the loss of lives at 4 million.

The August 2010 Pakistan floods took 2000 lives, destroyed nearly 2 million homes and affected 20 million people. At one point approximately 20% of Pakistan was under water – that's an area of 160,000 square km, which is a little bit more than the area of New Zealand's South Island and 40% more than the area of the North Island. The economic cost of this flood has been estimated at US\$43 billion.

In January 2011, three-quarters of the Australian state of Queensland was declared a disaster zone because of flooding. That is an area five times the size of New Zealand. Huge volumes of brown water washed through Queensland over a period of several weeks, and 35 people died. From the same weather system other Australian states also suffered extensive flooding; the total cost to insurers will be about A\$4 billion. The damage would have been even greater if it had not stopped raining when it did, given that the Wivenhoe dam above Brisbane was almost filled to capacity.

Much of the Queensland damage was in Brisbane, where the Brisbane River overflowed into shopping malls and the city's business centre. However, this was not the first time the river had flooded: there have been six occasions in the last 150 years when the Brisbane River has peaked even higher. The most recent of these was in 1974 where insured losses from flooding and wind damage were A\$2.3 billion in 2011 dollars.

Flooding can happen in a surprising number of ways. The following are examples, some of which often overlap with each other:

- Prolonged rainfall,
- Heavy rain on saturated soil,
- Heavy rain on very dry soil where most of the water runs off, thus causing a flood elsewhere,
- Very, very heavy rain (e.g. the Kopuawhara flash flood of 1938),
- A rising river overtopping its banks,
- A lake overflowing (e.g. Lake Wakatipu flooding Queenstown in 1999),
- A river becoming blocked by debris, landslide or ice jam, causing it to divert,
- Melting snow,
- Stormwater systems blocked or with insufficient capacity,
- Storm surge (e.g. Hurricane Katrina in New Orleans, 2005),

- A king tide combined with low atmospheric pressure, a La Niña weather cycle and high winds blowing onshore (e.g. Auckland, 2011),
- Stopbanks or levees breaking (e.g. Hurricane Katrina, New Orleans, 2005),
- Dam spill, which may be intentional (as in Brisbane in 2011) or unintentional,
- Tsunami,
- A lahar; the 2007 lahar from Ruapehu caused the Whangaehu River to rise 4 metres in a few hours.

Because some riverside properties are essentially uninsurable or considered too expensive to insure, some insurance policies differentiate between floods where 'the water comes up' (river flooding) and floods where 'the water comes down' (rainstorms). This can lead to confusion as to what damage is insured, as can policies (usually between an insurer and a reinsurer) that require a determination as to when and where one flood starts and another finishes. Separating 'wind damage' from 'flood damage' can also be problematic.

Major floods in New Zealand in recent times have included the Southland floods in 1984, Cyclone Bola in 1988, Queenstown in 1999, Manawatu in 2004 and Northland in 2007. Generally, floods do not come with much warning, and in the case of flash flooding, with very little warning at all. The insurance cost of these five events in 2011 dollars, including storm damage, ranges from \$60 million to \$130 million and averages \$90 million. As with most disasters, total damage would generally have been several times the insured damage.

The opposite of flooding, a prolonged drought, can be even more harmful economically than a major flood. The cost of the 2008 drought to New Zealand pastoral agriculture exceeded \$1 billion. Both droughts and floods can be expected more often because of global warming.

The evidence for global warming is overwhelming: each one of the last 35 years has had an average temperature that is greater than the average for the twentieth century; the last decade was the warmest decade on record; 2010 was the warmest year on record. Natural weather patterns will ensure that records will be broken from time to time, but the pace of the current warming compared to historic patterns is alarmingly fast. Warming accentuates the flood risk for two reasons: the first is more variability leading to more extreme events; the second is simply the fact that the atmosphere is hotter and can therefore hold more water vapour.

An increase of 1°C allows the atmosphere to hold 8% more water. If there is 100 mm of rain and the ground can absorb half of that, for example, before becoming saturated, then that leaves 50 mm of rain as runoff. If a storm results in 108 mm of rain and the amount the ground can absorb is unchanged, then the runoff becomes 58 mm, which is a 16% increase. That could turn a '1 in 50-year event' (actually a probability of 1 in 50 that the event will occur in the coming year) into a '1 in 150-year event' in terms of damage, and be the difference between a flood protection system that is effective and one that fails.

Wellington's Hutt Valley would be regularly flooded by the Hutt River (as it used to be) were it not for its extensive flood protection works. For Christchurch the largest river with the potential to flood is the Waimakariri. This river has flood protection built for a 1 in 450-year event, but that number is based on the weather patterns of the past. The widely held scientific view is that future weather patterns will be more diverse, with previously considered 'extremes' (including cold spells) becoming more 'regular'. What was considered (and typically what the protection measures were designed for) as a 1 in 200-year event, say, will in the future become more frequent, say a 1 in 75 expectation in the coming year.

This means that if flood protection works are not upgraded there will be more flooding as a result of protection works being overtopped.

VOLCANOES

Perhaps the most famous and dangerous volcano in the world is Vesuvius, which is only 9 km from the Italian city of Naples. In AD 79 Vesuvius erupted and killed more than 3500 people, destroying the towns of Pompeii and Herculaneum. In 1631 an eruption killed more than 4000 people, and in 1906 another caused the deaths of over 200 people. Serious eruptions of Vesuvius occurred ten times in the eighteenth century, eight times in the nineteenth century, and four times in the twentieth century, the last one being in 1944. Worryingly, more than 700,000 people now live in the area destroyed in AD 79.

New Zealand has 12 active volcanic areas. Although there are none in the South Island today, it has had volcanoes in the past. For example, two volcanoes formed Banks Peninsula, there were multiple lava flows from Mt Horrible in Timaru, and Dunedin's Mt Cargill, peninsula and harbour are also an ancient volcano.

Recent research shows that Auckland volcanoes erupt about once every 2600 years on average, but eruptions do not occur like clockwork. For example, between 20,000 and 30,000 years ago, several volcanoes erupted over a relatively short period whereas between 100,000 and 250,000 years ago, eruptions were few and far between. The latest eruption, 600 to 700 years ago, formed Rangitoto (a new island of 2311 hectares in the Hauraki Gulf) and on its own erupted almost 50% more material than the combined 48 eruptions before it! Geologically the Auckland field is still young.

White Island is New Zealand's most active cone volcano and has been built by volcanic activity over the past 150,000 years. About 70% of the volcano is under the sea, making this massive volcanic structure larger than any of the New Zealand land volcanoes, but it is still only one-third the size of the submarine Brothers Volcano on the Kermadec Arc. At sea level White Island is 2 km across. Although uninhabited now, it was the scene of 11 deaths in 1914 when part of the crater wall collapsed, creating a landslide.

The volcanoes at Okataina have erupted at intervals of between 700 and 3000 years, in contrast to Ngauruhoe, Ruapehu and White Island, which erupt every few years and sometimes months. (Determining when one eruption ends and another one starts for an active volcano is not always obvious. That said, Ruapehu is said to have had more than 60 eruptions since 1945.) Eruptions at Okataina have been 100 to 10,000 times larger than those at White Island or Ngauruhoe. When Mt Tarawera in the Okataina erupted in June 1886 the rumblings were heard as far south as Blenheim, and an estimated 108 people were killed. Even so, for Okataina the 1886 eruption was a relatively small one.

Lake Taupo lies 80 km southwest of Okataina. Taupo is a supervolcano, and in the last 26,000 years the region has seen about 28 major eruptions, from 50 to 5000 years apart. The latest, which occurred about 1800 years ago, was the most violent eruption in the world for 5000 years and was possibly the cause of the red sunsets recorded by the Chinese and Romans at that time. Other large Taupo eruptions were approximately 3500, 10,000 and 26,000 years ago. The latter was a monster, and is estimated to have ejected 1170 cubic km of material compared to 'just' the 120 cubic km of material from the Taupo eruption of 1800 years ago.

Moving further down the North Island, Ngauruhoe is only 4500 years old. Although not active since 1975, of the volcanoes in New Zealand it has been the most continuously active over recorded history. Its neighbour, Ruapehu, the highest mountain in the North Island, had moderate eruptions in 1995, 1996 and 2007, with the ash plumes in 1995 and 1996 significantly interfering with aircraft travel. A lahar (water, volcanic rock and mud flow) from Ruapehu was responsible for the Tangiwai disaster on 24 December 1953, in which a train derailed and 151 people died.

A similar lahar occurred in March 2007, but increased awareness and good planning meant there was no major disruption to services or infrastructure and no casualties.

Mt Taranaki, the second highest mountain in the North Island, had a medium-sized eruption in 1755 and a major one in 1655. Large eruptions for Taranaki occur on average every 500 years with smaller eruptions about 90 years apart, the most recent being around 1860. It is thought that Mt Taranaki is likely to have significant seismic activity in the next 50 years.

The probability of a major volcanic eruption in New Zealand in the next 20 years exceeds the probability of a major earthquake on the Wellington fault. It is possible, but not likely, that the damage to people and property from a major volcanic eruption could exceed the expected damage from a major Wellington earthquake (in monetary terms estimated at around \$15 billion, but that figure may be considered too low when data from the Canterbury earthquakes has been fully analysed).

Potential damages from a volcano are from lava flow, ballistic (cannonball-like) projectiles, the blast (technically a pyroclastic density current, which is hot rock fragments suspended in gas), lahars, debris avalanche/sector collapse, tsunami and ash fall. Blasts can reach over 150 km/h, can be in excess of 700°C initially and 200°C in distal regions, and travel up to 200 km. The blast from the 1980 eruption of Mt St Helen's, in the USA, devastated an area of 600 square km in a 120-degree arc. The tsunami from the island volcano Krakatoa in 1884 drowned 34,000 people.

Ash fall damage depends on the amount of ash, how fine it is, and the wind direction and strength. More than a centimetre of ash settling on roofs will cause some to collapse, particularly if the ash is wet and the roof is not very steep. Volcanic ash is generally abrasive, can be mildly corrosive and potentially conductive, affecting transmission lines, computers and machinery. Sewage and stormwater systems and sewage treatment plants are vulnerable to large quantities of ash. Ash cover on pastures will result in lack of feed for animals (greater than 50 mm kills most pasture). Ash fall can affect regions hundreds or even thousands of kilometres from the eruption.

Around 69,000 to 77,000 years ago a supervolcano erupted in the area now known as Lake Toba in Sumatra, Indonesia. This one-in-one-million-year event erupted magma estimated at 2800 cubic km (approximately seven million trillion kilograms) with an ash component that is thought to have covered all the land in South East Asia to a depth of 15 cm.

As well as the ash, vast quantities of sulphur dioxide were emitted into the upper atmosphere, which reacted with water vapour to form droplets of sulphuric acid. These droplets and the ash clouds blocked out a significant amount of sunlight, leading to an estimated six- to ten-year 'volcanic winter' that almost eliminated the human race. Suggestions are that worldwide only 10,000 or so humans survived.

A volcanic eruption does not have to cause a volcanic winter to have a cooling effect. Recent examples are the 1991 eruption of Mt Pinatubo, the 1883 eruption of Krakatoa and the 1815 eruption of Mt Tambora, which led to the 'year without summer' in 1816. It is postulated that the great famine of 1315–1317 in Europe may have been precipitated by a New Zealand volcanic event.

Ash causes other problems too. Disposal of large amounts is problematic – a big fall of ash will fill all the landfills many times over. Trace elements in ash can be poisonous to animals and abrasive ash damages their teeth. Ash washed into the upper Tongariro River following the 1995 Ruapehu eruption caused considerable damage to the hydroelectric station's turbines, and the 1996 Ruapehu eruption led to the termination of several hundred jobs in the ski industry and associated tourism activities.

LAPP: WHY AND HOW *(continued)*

The ash from the Icelandic volcano Eyjafjallajökull caused substantial disruption to air traffic across Europe in 2010 and ash from a Chilean volcano in 2011 similarly affected flight travel in Chile, South Africa, Australia and New Zealand.

Volcanic eruptions are not all bad however. Scientists say that around 700 million years ago the Earth's surface became very cold. So cold that even at the equator the sea surface would have been ice. With the sea frozen and the land covered by snow, from space the Earth would have looked like a giant snowball.

Having become that cold, the surface of the Earth was unable to become warm because the heat from the sun was being reflected by the snow and ice. Volcanoes to the rescue! The theory is that it was their emissions that filled the atmosphere with carbon dioxide, which enabled the sun's heat to be retained and the Earth to warm. Thus, without volcanoes the Earth would still look like a giant snowball and life on Earth today, if it existed at all, would be very different.

Volcanoes also fulfill another critical role in supporting human and other life. Sea beds are covered with the sunken shells of dead shellfish. The dead shellfish made those shells using carbon absorbed by the ocean from the atmosphere. How does that carbon get back into the atmosphere? Much of it is by way of volcanoes, in a process known as the geochemical carbon cycle. Also, but unnoticeable in a human life span, weathering causes mountains and all other land to slowly wash into the sea. In time, therefore, everything would be submerged if it were not for earthquakes and volcanoes pushing back the other way.

OTHER CATASTOPHIC HAZARDS

Another and very significant natural hazard that can certainly be catastrophic is wind. Hurricane Katrina (USA, 2005) at US\$72.3 billion (in 2011 dollars) ranks as the most costly insurance event in the world to date. Hurricane Andrew (USA, 1992) ranks third at US\$24.9 billion. Second ranking, despite economic losses estimated at US\$300 billion, is the 2011 Tohoku tsunami, with an estimated insured loss of US\$30 billion. Fatalities arising from Cyclone Nargis (Myanmar, 2008) were estimated at 140,000. New Zealand's biggest recorded cyclone was Cyclone Bola in 1988. New Zealand also has tornadoes, with an average of about ten recorded per year over the last five years.

Other hazards with the potential to be catastrophic include:

Event	Comments
Terrorism	Insured losses from the destruction of the World Trade Centre in 2001, at US\$23.1 billion, rank it as the fourth most costly insurance event in the world.
Meteoroid	The Russian Tunguska explosion in 1908 is believed to have been caused by a meteoroid exploding 5 to 10 km above the Earth's surface. The explosion knocked over some 80 million trees and is estimated to have been about 1000 times more powerful than the atomic bomb dropped on Hiroshima. The property loss if such an event occurred above Manhattan today is estimated at US\$1.2 trillion.
Disease	The 1918 flu pandemic killed 50 to 100 million people (3% to 6% of the world's population at the time). If it came to New Zealand, foot and mouth disease would be devastating to the economy. Biosecurity New Zealand estimates unemployment would increase by about 20,000 jobs and Gross Domestic Product would decline by NZ\$10 billion over a two-year period.

Disease	The 1918 flu pandemic killed 50 to 100 million people (3% to 6% of the world's population at the time). If it came to New Zealand, foot and mouth disease would be devastating to the economy. Biosecurity New Zealand estimates unemployment would increase by about 20,000 jobs and Gross Domestic Product would decline by NZ\$10 billion over a two-year period.
Nuclear	Nuclear accidents to date include: Three Mile Island (1979), Chernobyl (1986) and Fukushima (2011). Nuclear warfare would undoubtedly be catastrophic.
Political instability	Political instability affects a number of local economies and also the global economy. Sadly, there are numerous examples.
Economic instability	The obvious recent example is the Global Financial Crisis, but high inflation has been a problem in the past and trade wars remain a threat.
Wildfires	Bushfires in Australia and the USA are not uncommon. The Russian wildfires following record temperatures in July and August 2010 cost US\$15 billion; fire, smog and the heatwaves were estimated to have killed 56,000 people.
Solar storm	The Carrington Event of 1859 is the largest geomagnetic storm recorded. Telegraph systems worldwide went haywire; even with batteries disconnected, some were still able to transmit messages. Less severe storms occurred in 1921 and 1960, when widespread radio disruption was reported. The storms are associated with solar flares and higher than normal levels of sunspots. Solar storms are a threat to satellites, telecommunications equipment, GPS systems and electrical grids, damage to which can result in huge consequential losses.

What might be described as unfunded increases in human longevity is undoubtedly becoming an issue and any further increases in human longevity will aggravate this. An unexpected crisis in New Zealand was the 1998 Auckland power crisis when all four power cables to the Auckland CBD failed, leading to a five-week-long Auckland CBD power outage. Car accidents, which individually would not be labeled as catastrophes, account worldwide for over 1.2 million deaths and 50 million injuries each year.

ACKNOWLEDGEMENTS

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THIS DEED is made the 14th day of December 2007

BETWEEN **NEW ZEALAND LOCAL GOVERNMENT ASSOCIATION INCORPORATED**, a society incorporated in Wellington pursuant to the Incorporated Societies Act 1908 ("the Settlor")

AND **ROBERT DAVID RENNIE ELLIOTT** of Gisborne, formerly Chief Executive Officer now retired, **WYNNE ARCHDALL RAYMOND**, formerly Mayor now retired, **IAN ROBERT FLOCKHART MCKELVIE**, Mayor of Manawatu, **KINSLEY NEVILLE SAMPSON** of New Plymouth, formerly General Manager now Company Director, **DALE ALWYN LOTT** of North Shore City, Auckland, Accountant, and **LANGLEY DAVID CAVERS** of Hauraki District, District Manager (together "the Trustees")

WHEREAS

- A The Settlor established a fund for the reinstatement of lost or damaged generally uninsurable local government infrastructure known as the New Zealand Local Authority Protection Programme Disaster Fund, by Deed of Trust dated 29 June 1993 ("the Establishment Trust Deed")
- B Only those Local Authorities that are contributing to the fund are to be eligible for distributions in the event of loss or damage to their infrastructure.
- C The Fund is to be accumulated and applied for the purpose by the Trustees in accordance with this Trust Deed.
- D The Trust Deed provides that the Trustees may amend the Trust Deed by unanimous resolution of the Trustees present at any validly convened meeting, provided such amendment is not inconsistent with the charitable scope of the trusts contained in the Trust Deed.
- E The Trust Deed was amended by Deeds of Variation dated 14 February 1997 and 5 June 2003, both times with the consent of the Settlor as required by the Establishment Trust Deed.
- F At a meeting of the Trustees held on 9 November 2007 the Trustees resolved that:
 - (a) the Trust Deed would be further amended, and
 - (b) such amendments would be incorporated into this deed once the consent of the Settlor had been obtained.

NOW THIS DEED WITNESSES AND IT IS AGREED AND DECLARED AS FOLLOWS:

1 DEFINITIONS AND INTERPRETATION

1.1 Definitions

Each of the following words and expressions shall, unless the context otherwise requires, have the following meanings, as indicated:

"the Act" means the Charitable Trusts Act 1957;

"Administration Manager" means the person appointed to that office;

"Advisory Trustee" means any advisory trustee appointed pursuant to clause 3.1.8;

"Alternative Trustee" means any alternate trustee appointed pursuant to clause 3.1.3;

"Annual Accounts" means statements of income and expenditure and balance sheets of the Fund prepared or to be prepared in accordance with the provisions of this Trust Deed;

"Annual Contribution" means the annual payment to the Fund made by each Member in return for Coverage by the Fund for a Fund Year;

"Asset Value" means the cost of reinstatement of a Member's Infrastructure as determined pursuant to clause 7.1.1(a);

"Auditor" means the office of auditor or auditors to the Fund for the time being;

"Commencement Date" means 1 July 1993;

"Coverage" means protection for the cost of reinstatement of the Members' Infrastructure required as a result of a Damaging Event;

"Damaging Event" includes flooding, earthquake, volcanic eruptions (including the effects of volcanic ash), storm surge, tsunami, wildfire, gas explosion, hail, snow, wind damage, landslide, lahar and any other sudden event or sudden situation causing serious disruption, loss or damage to Infrastructure;

"Deductible" means any uninsured first amount of any loss or damage following a Damaging Event that the Trustees determine shall be borne by the Member;

"Distribution" means payment, made to a Member from the Fund, consequent upon their Coverage;

"Extraordinary Contribution" means any contribution to the Fund which a Member is required to make as:

- (i) a condition of their entry to membership of the Fund at any time after the Commencement Date; or
- (ii) any contribution for Coverage for any part or portion of a year;

"Fund" means the New Zealand Local Authority Protection Programme Disaster Fund, established by the Establishment Trust Deed;

"Fund Year" means each year of the Fund commencing on 1 July and ending on 30 June in the calendar year following;

"Infrastructure" means any asset accepted as such by the Trustees and registered with the Trustees for Coverage for which a Local Authority has an insurable interest and may include reticulation, storage and treatment facilities (water, sewage, stormwater); tunnels other than road tunnels; dams; canals; stopbanks; flood control protection works; drainage works; detention ponds; sea walls; and harbour risks (including buoys, beacons and foreshore lighthouses).

"Investment Manager" means any person to whom the Trustees have contracted the investment of some or all of the assets of the Fund pursuant to clause 4.1.1(b);

"Local Authority" means any New Zealand Local Authority or Territorial Authority or Regional Council as defined in section 5 of the Local Government Act 2002, and includes any Council-Controlled Organisation as defined by section 6 of that Act.

"Member" means any Local Authority admitted as a member of the Fund, the membership of which has not been terminated.

"Participation Deed" means the agreements so called entered into by Local Authorities on admission to membership of the Fund;

"Stated Value" means the Member's estimate of the reinstatement value of its Infrastructure.

"the Trustees" means the trustees named in this Trust Deed (until removed from office), any new trustees appointed either pursuant to clause 3.1.2 or clause 3.1.6, any Alternate Trustees appointed pursuant to clause 3.1.3 and any Advisory Trustees appointed pursuant to clause 3.1.8 collectively.

"written" or "in writing" includes printing, engraving, lithography, telegraphy, facsimile or any other communication by written word.

1.2 Interpretation

- 1.2.1 Words importing any one gender shall include the other.
- 1.2.2 Plurals shall include the singular and vice versa.
- 1.2.3 Reference to persons shall include body corporates.

- 1.2.4 Reference to any Act of Parliament shall be deemed to include every amendment or re-enactment of it and every Act of Parliament substituted for it, and any regulations made under the Act.
- 1.2.5 All references in this Trust Deed, or to provisions or clauses of this Trust Deed, shall be deemed to be references to this Trust Deed and to those provisions or clauses as altered from time to time pursuant to the provisions of this Trust Deed.
- 1.2.6 Except as otherwise defined in this Trust Deed, the terms used in this Trust Deed which have been defined in the Act shall have the same meaning as ascribed to those terms in the Act.

2 CONSTITUTION OF THE FUND

2.1 New Zealand Local Authority Protection Programme Disaster Fund

- 2.1.1 A fund is hereby established by the New Zealand Local Government Association Incorporated, with the charitable purposes set out in clause 2.1.3.
- 2.1.2 The name of the fund shall be the New Zealand Local Authority Protection Programme Disaster Fund.
- 2.1.3 The charitable purposes of the Fund shall be:
- To assist New Zealand local government to carry out its responsibilities under central government's disaster recovery policies and plans; and
 - To provide funds for Members for the purpose of reinstatement of lost or damaged Infrastructure as a result of Damaging Events; and
 - To facilitate effective programmes to enable New Zealand local government to identify and manage risks to their Infrastructure by minimising and reducing the exposure, limiting the risks and diminishing the potential for loss or damage; and
 - To provide Members with the capacity for self-help to recover from consequences of Damaging Events; and
 - To do anything else which the Trustees may think is conducive or incidental to the attainment of the above charitable purposes.
- 2.1.4 There are no non-charitable purposes for the Fund.
- 2.1.5 The Fund shall consist of all property for the time being held by or on behalf of the Trustees, derived from:
- Any gifts or donations;
 - Extraordinary Contributions;
 - Annual Contributions;
 - Income from investments;
 - Proceeds of realisation of investments;
 - Any policies or contracts of re-insurance;
 - Any recoveries;
 - Any other source.
- 2.1.6 The Fund shall be held in trust by the Trustees upon the trusts and for the charitable purposes contained in this Trust Deed and shall be managed, administered and applied by the Trustees, in accordance with the powers contained in this Trust Deed, in order to attain those charitable purposes.
- 2.1.7 The Trustees are and shall remain responsible for the safe custody of all money, policies, certificates and other documents of title and value in connection with the Fund and for the safe custody, realisation and distribution of all of the assets from the Fund, from time to time vested in them.

3 TRUSTEES

3.1 Appointment and Removal of Trustees

- 3.1.1 The number of Trustees shall be not less than four nor more than six. The Trustees shall be one or two appointees of the Settlor; one or two appointees of the New Zealand Local Government Insurance Corporation Limited; and one or two appointees of the NZ Society of Local Government Managers Incorporated (together called the "Appointors").
- 3.1.2 The power of appointing new Trustees shall be vested in the Appointors each of which shall have the power to appoint two persons as Trustees and they having been appointed as Trustees to remove and/or replace them, by notice in writing given to the Administration Manager.
- 3.1.3 The Appointors shall be entitled to appoint any person as an Alternative Trustee in place of any Trustee appointed by them, by notice in writing given to the Administration Manager, either for a specified period, or for a specified meeting or any part of a meeting, or for any particular subject matter at any meeting, or generally during the absence of any such Trustee, and from time to time, in the same manner, to remove any Alternate Trustee.
- 3.1.4 An Alternate Trustee appointed pursuant to clause 3.1.3 shall:
- not be remunerated otherwise than out of the remuneration of the Trustee in whose place the Alternate Trustee acts;
 - be deemed to have automatically vacated office when the Trustee in whose place the Alternate Trustee acts vacates office;
 - unless otherwise provided by the terms of appointment of the Alternate Trustee, have the same rights, powers and privileges (including without limitation, the right to receive notice of meetings of Trustees, the power to sign resolutions of Trustees and the power to witness the affixing of the common seal) as the Trustee in whose place the Alternate Trustee is appointed;
 - discharge all the duties of, and be subject to the same provisions in this Trust Deed as the Trustee in whose place the Alternate Trustee acts.
- 3.1.5 The Administration Manager shall within seven days of it being notified in writing of the appointment, removal or resignation of a Trustee give to every Member and Appointor (other than an Appointor exercising its powers of appointment or removal) written notice of the appointment, removal or resignation of the Trustee.
- 3.1.6 Notwithstanding the provisions of clause 3.1.2 of this Trust Deed, if any Appointor shall fail at any time to exercise its power of appointment and notify the Administration Manager in writing accordingly, within fourteen days of:
- it being notified in writing of the removal or resignation of their appointee; or
 - it becoming aware of the occurrence of another event which creates a vacancy (as provided for in clause 3.1.7); and
 - the number of Trustees falls below four – then the Trustees shall forthwith appoint further or additional Trustees on behalf of any Appointors so failing, so as to ensure there are not less than four nor more than six Trustees and every Trustee then appointed may thereafter only be removed by unanimous resolution of the Trustees.
- 3.1.7 A vacancy in the office of Trustee shall arise if:
- a Trustee is adjudged bankrupt; or
 - a Trustee resigns by notice in writing to the Administration Manager; or
 - a Trustee refuses to act; or

- a Trustee becomes of unsound mind; or becomes subject to a property order under the Protection of Personal and Property Rights Act, 1988; or
 - a Trustee is removed by their Appointor in accordance with the provisions of this Trust Deed; or
 - a Trustee is otherwise removed by operation of law.
- 3.1.8 The Trustees shall have power to appoint any person at any time as an Advisory Trustee to the Fund, and to prescribe the function of such Advisory Trustee. An Advisory Trustee shall not be counted in the number of Trustees required by clause 3.1.1, or in the quorum required for meetings of the Trustees, nor be entitled to vote thereat.
- ### 3.2 Meetings of Trustees
- 3.2.1 The Trustees shall from time to time meet for the despatch of business of the Fund, and subject to the provisions of this Trust Deed and particularly this clause 3.2 shall have the power to adjourn or otherwise regulate their meetings and proceedings, and vary the regulation and procedure of such meetings and proceedings, as the Trustees think fit.
- 3.2.2 Questions arising at any meeting of the Trustees shall be determined by a majority of the votes of those present and voting.
- 3.2.3
- The Trustees shall at their inaugural meeting and again before the end of each Fund Year elect one of their number to be the chairman of Trustees for the ensuing Fund Year. The person so elected shall hold office as chairman of Trustees during the ensuing Fund Year, and shall be eligible for re-appointment.
 - The person so appointed shall chair all meetings of the Trustees at which they are present. If at any meeting the chairman is not present within fifteen minutes of the appointed time for holding the meeting the Trustees present shall then choose one of their number to be the chairman of that meeting.
 - A chairman shall not be entitled to a second or casting vote.
- 3.2.4 Every meeting of the Trustees shall be called by giving not less than seven days notice in writing to the Trustees provided that a meeting of the Trustees shall be deemed to have been duly called if it is so agreed by all the Trustees entitled to attend and vote thereat.
- 3.2.5 Upon the written request of three Trustees giving notice of the subject matter of that meeting, the Administration Manager shall summon a special meeting of the Trustees, within seven days of that request.
- 3.2.6 Every notice of a meeting of the Trustees shall;
- be given in writing by the Administration Manager to each Trustee at their last known address;
 - be exclusive of the day on which it is served and of the day of the meeting;
 - specify the place, day and hour of the meeting;
 - specify, in the case of special business, the general nature of that business.
- 3.2.7 The accidental omission to give notice of a meeting to, or the non receipt of notice of a meeting by, any Trustee shall not invalidate the proceedings at the meeting.
- 3.2.8
- No business shall be transacted at any meeting of the Trustees unless a quorum is present at the time when the meeting proceeds to business. The quorum for meetings of the Trustees shall be as fixed by resolution of the Trustees and until so fixed any number of the Trustees more than one-half of the total number of the Trustees entitled to vote thereat shall constitute a quorum. Where one-half in number of the Trustees so entitled to vote is a fraction it shall be rounded-up to the next whole number and such number shall be the quorum for a meeting of the Trustees.

- If within half an hour from the time appointed for a meeting of the Trustees a quorum is not present the meeting shall stand adjourned to the same day in the next week at the same time and place, and if at the adjourned meeting a quorum is not present within half an hour from the time appointed for the meeting, the Trustees present shall constitute a quorum.
 - Every Trustee present shall, notwithstanding their conflict between interest and duty (if any), be counted in a quorum present.
- 3.2.9 A validly called meeting of the Trustees at which a quorum is present shall be competent to exercise all or any of the authorities, powers and discretions by or under this Deed vested in or exercisable by the Trustees.
- 3.2.10 Any Trustee who is in any way, whether directly or indirectly;
- personally interested in a contract or arrangement or any proposed contract or arrangement with the Trustees or with any Member; or
 - is an elected member, office or employee of any Member or proposed Member which is interested –
- shall declare the nature of the interest and unless the interest is no greater than or any different from –
- in the case of an interest to which subclause (a) of this clause applies, that of the other Trustees present; or
 - on the case of an interest to which subclause (b) of this clause applies, that of the Members generally, they shall thereafter take no further part in the deliberations in respect of that matter.
- 3.2.11 The foregoing rule shall not operate to prevent any Trustee taking part in discussions and decisions regarding rules, guidelines, or policies regarding Annual Contributions.
- 3.2.12 All disclosures of interest by any Trustee, and whether or not they took part in discussion on or voted on the matter before the meeting, shall be recorded in the minutes of the meeting.
- 3.2.13
- The Trustees may meet by means of a Telephone Meeting, the Trustees having been given notice of the meeting as required by the provisions of this Trust Deed.
 - In this clause:

"Telephone Meeting" means the contemporaneous linking together by telephone of Trustees comprising a quorum (whether or not any one or more of those persons is outside New Zealand); "Telephone" means and indicates any instant electronic means of communication.
 - Before a Telephone Meeting proceeds to business:
 - each of the Trustees taking part must be able to hear each of the other Trustees taking part;
 - the chairman shall ask each Trustee taking part in turn to respond by way of confirmation that they are in fact linked to and are taking part in the Telephone Meeting;
 - the chairman shall thereupon announce to the Telephone Meeting the names of those Trustees who have so responded.
 - The Trustees so named by the chairman shall be conclusively deemed to be present at the Telephone Meeting and, unless given permission to leave under subclause (e) of this clause, to have been present all the time during the Telephone Meeting.
 - No Trustee may leave a Telephone Meeting by disconnecting their telephone unless the chairman has first granted that Trustee permission to leave.
 - A minute of the proceedings at a Telephone Meeting shall be conclusive evidence of the proceedings and the regularity of the meeting if certified as a correct minute by the chairman.

3.3 Subcommittees

- 3.3.1 (a) The Trustees may at any time, for any specified purpose, appoint such of their number as they think fit to be members of any one or more subcommittees.
- (b) Each such subcommittee shall have such powers and duties as are delegated to it by the Trustees.
- (c) Each such subcommittee shall have power to co-opt such person or persons whether or not Trustees as the Trustees think fit, provided that:
- (i) in relation to each subcommittee the number of co-opted members shall not exceed the number of Trustees who are members of the subcommittee; and
- (ii) such co-option shall be subject to the approval of the Trustees at the first meeting of the Trustees following the co-option.
- (d) The Trustees may appoint a chairman of each subcommittee. If no such chairman is appointed or if at any meeting the chairman is not present within 15 minutes after the time appointed for holding the same, the members of the subcommittee present shall then choose a chairman of the meeting.
- (e) Each subcommittee may meet and adjourn as it thinks proper. Questions arising at any meeting shall be determined by a majority of votes of all those present and voting. In the case of an equality of votes the chairman shall have a second or casting vote.

3.4 Validity of Acts of Trustees

- 3.4.1 All acts done in good faith at any meeting of the Trustees or any subcommittees of the Trustees, or by any person acting as a Trustee, shall, notwithstanding that it shall afterwards be discovered that there was some defect in the appointment of such Trustee or that such Trustee was disqualified, be as valid as if every such Trustee had been duly appointed, and was qualified to be a Trustee.

3.5 Resolutions in Writing

- 3.5.1 A resolution in writing, signed by all of the Trustees entitled to vote thereon shall be as valid as if it had been passed at a meeting of the Trustees duly convened and held. Any such resolution may consist of several documents in like form, each signed by one or more of the Trustees so entitled. Any such document sent by a Trustee by telegram, cable, facsimile, copier, telex or other electronic means of communication shall be deemed to have been signed by the Trustee.

3.6 Remuneration of Trustees

- 3.6.1 The Trustees shall not make any private pecuniary profit from the Fund, except that the Trustees shall be entitled to reasonable fees for their services in respect of the management and administration of the Fund. The amount of the fees shall be determined from time to time by the Administration Manager after consultation with the Settlor and the Trustees.

3.7 Indemnity and Limitation of Trustee's Liability

- 3.7.1 The Trustees shall be indemnified and shall be entitled to reimburse themselves out of the Fund in respect of all costs, charges and expenses which they incur in or about management or administration of the Fund.
- 3.7.2 No Trustee acting or purporting to act in execution of the trusts created by this Trust Deed shall be liable for any loss not attributable to their own dishonesty or their wilful commission of or omission to do any act known by them to be a breach of trust, and in particular (without limitation) no Trustee shall incur any liability in respect of:
- (a) Any act done or not done in the exercise of or in respect of any discretion vested in them.
- (b) Anything done or suffered by them in good faith in reliance upon any advice or opinion (whether or not obtained by the Trustees)

of any professional person, or upon any advice the Trustees may obtain directly or indirectly from any company, firm or person as shall, in the opinion of the Trustees, be qualified to provide advice.

- (c) Any failure or refusal to perform or do any act or thing which by reason or provision of any law of New Zealand they are hindered or prevented from doing or performing.

- 3.7.3 No Trustee shall be bound to or be liable for any failure to take any proceedings against a co-Trustee for any breach or alleged breach of trust committed by the co-Trustee.

4 POWERS OF TRUSTEES

4.1 General Powers

- 4.1.1 In addition to the powers conferred by law and elsewhere in this Trust Deed the Trustees shall have the power:

(a) Subject to clause 5.1.3, from time to time to appoint and remove the Administration Manager and, subject to the specific duties imposed on the Administration Manager by this Trust Deed, define the duties and responsibilities of the Administration Manager, on terms to be agreed in writing between the Trustees and the Administration Manager.

(b) From time to time to appoint and remove one or more investment managers. The Investment Managers shall have such powers and duties in relation to the investment of the fund as the Trustees shall determine and agree in writing between the Trustees and the Investment Managers.

(c) To appoint and remove a custodian trustee to hold in safe custody all policies, certificates and other documents of title in connection with the whole or any part of the Fund, on terms to be agreed in writing between the Trustees and the custodian trustee.

(d) To otherwise retain the services of professional advisors and managers in relation to the management, administration and investment of the Fund, to delegate powers and discretions to professional advisors and managers as the Trustees see fit, and to determine and to pay out of the Fund, any fees payable to those professional advisors and managers.

(e) To make rules or guidelines, and to adopt procedures, consistent with the provisions of this Trust Deed, including, without limitation, in relation to membership; calculating and fixing Asset Values, Deductibles, Extraordinary Contributions, Annual Contributions and Distributions; determining from time to time which of a Member's assets can be registered with the Trustees as Infrastructure; and to make rules or guidelines and to adopt procedures as shall be appropriate for the convenient administration of the Fund.

(f) To borrow money for the purpose of providing Distributions where the assets of the Fund are not immediately realizable, or if realizable are only realizable at a material loss to the Fund, and to secure the repayment of such moneys in any manner and upon any terms the Trustees consider advisable, whether by charge over all or any portion of the Fund or any particular property or otherwise, provided however the Trustees shall first have had and obtained the consent in writing of the Settlor thereto and provided further that in no event shall the amount borrowed exceed the then estimated values of the assets of the Fund, less any existing liabilities of the Fund, contingent or otherwise.

(g) To seek reinsurance protection in support of the Fund.

(h) Generally to do all such acts and things as the Trustees may consider necessary or expedient for the administration, maintenance and preservation of the Fund and in performance of their obligations under this Trust Deed.

4.2 Investments Authorised

- 4.2.1 All moneys belonging to the Fund and available for investment shall be invested in accordance with the provisions of the Trustee Act 1956 as to the investment of trust funds.

4.3 Exercise of Discretion

- 4.3.1 The Trustees may exercise or enforce all of the authorities, discretions and powers vested in them from time to time, and at any time and may refrain from exercising all or any such powers.

4.4 Appointment of Auditor

- 4.4.1 The Trustees shall from time to time appoint an Auditor (being the holder of a certificate of public practice issued by the Institute of Chartered Accountants of New Zealand) of the Fund at a remuneration to be fixed, and payable, by the Administration Manager, out of the Fund.

5 MANAGEMENT AND ADMINISTRATION

5.1 Appointment of Administration Manager

- 5.1.1 The Trustees shall appoint an Administration Manager which shall, in addition to other duties or responsibilities conferred on the Administration Manager elsewhere in this Trust Deed, and as from time to time agreed by the Administration Manager with the Trustees:

- (a) Receive applications for membership of the Fund;
- (b) Ascertain and audit the infrastructural assets of Members;
- (c) Issue debit notes for and maintain records of all Annual Contributions and Extraordinary Contributions paid to the Fund;
- (d) Use its best endeavours to secure economic reinsurance support of the Fund;
- (e) Facilitate effective programmes to enable Members to identify and manage risks to their Infrastructure by minimising and reducing the exposure, limiting the risks and diminishing the potential for damage by Damaging Events;
- (f) Receive and process applications for Distributions, within the scope of guidelines laid down by the Trustees;
- (g) Furnish the Trustees with full and complete reports of all losses by and of all payments made out of the Fund;
- (h) Liaise with local government agencies with respect to the application of their appropriate disaster recovery and emergency plans;
- (i) Make recommendations to the Trustees regarding any matters pertaining to the administration and management of the Fund;
- (j) Undertake such services as may be required by the Trustees or as may be reasonably necessary for the management, administration and investment of the Fund, and the operation of the trusts contained in this Trust Deed.

- 5.1.2 The Administration Manager shall be responsible to the Trustees for the proper management, and administration of the Fund and the trusts contained in this Trust Deed.

- 5.1.3 The first Administration Manager shall be the New Zealand Local Government Insurance Corporation Limited which shall hold office for an initial term of six years from the Commencement Date (unless removed earlier) on such terms (including terms relating to performance) as may be agreed in writing with the Trustees.

5.2 Records to be Kept

- 5.2.1 The Administration Manager shall keep or cause to be kept a complete record of:

- (a) The membership of the Fund including the dates on which Members were admitted to membership and when they ceased to be or were suspended as Members of the Fund.
- (b) Proper records of all meetings, resolutions and decisions of the Trustees.
- (c) The affairs, matters and transactions of the Fund.
- (d) All other matters, information and data necessary or expedient for the proper and effective working of the Fund and the operation of this Trust Deed.

5.3 Accounts

- 5.3.1 The Administration Manager shall ensure that:

- (a) All assets of the Fund are kept separate and apart from any assets or funds of the Administration Manager, with all moneys received by the Administration Manager to be banked in a separate bank account in the name of the Fund;
- (b) Proper books of account are kept in respect of the Fund;
- (c) Annual Accounts are prepared in respect of the Fund, presenting a true and fair view of the Fund's financial affairs at the end of each Fund Year; and
- (d) The Auditor appointed in accordance with the provisions of this Trust Deed examines and reports upon the Annual Accounts.

5.4 Annual Report of the Fund

- 5.4.1 The Administration Manager shall within six months after the end of each Fund Year:

- (a) Prepare an Annual Report for the Fund for the previous Fund Year.
- (b) Provide each Member with a copy of the Annual Report.

- 5.4.2 The following matters shall be contained in the Annual Report:

- (a) A statement of numerical changes in the membership of the Fund during the Fund Year;
- (b) The Annual Accounts for the Fund in respect of the previous Fund Year;
- (c) The Auditor's report on the Annual Accounts;
- (d) A statement by the Administration Manager as to whether all the Annual Contributions and Extraordinary Contributions required to be made to the Fund in accordance with the Participation Deeds and this Trust Deed have been made by the Members, and if not the amount or amounts outstanding;
- (e) A summary of any amendments to this Trust Deed that have been made during the Fund Year;
- (f) The names of and any changes since the last Annual Report in the Trustees, the Administration Manager, re-insurers, and changes in any actuaries, auditors and solicitors to the Fund (either by reference to their own names or the names of their firms);
- (g) The name and address of the person to whom all correspondence from the Members to the Trustees should be sent.

5.5 Delegation

- 5.5.1 Subject to this clause, the Administration Manager may at any time with the consent of the Trustees and from time to time, delegate any of its powers to any person.

- 5.5.2 A delegation pursuant to this clause may be:

- (a) Subject to such conditions and on such terms for the protection and convenience of persons dealing with the delegate as the person making the delegation thinks fit; and
- (b) Amended or revoked at any time.

5.5.3 If the Trustees or the Administration Manager exercise a power that is for the time being delegated that shall not revoke the delegation.

5.5.4 The Trustees shall not be liable for any act or defaults of any delegatee of the Administration Manager.

5.6 Expenses of Administration

5.6.1 The Administration Manager may pay from the Fund such costs, charges and expenses of management, administration and investment of the Fund as are properly payable by the Administration Manager on behalf of the Fund.

5.6.2 The Administration Manager shall be paid from the Fund such fees or charges for its administration of the Fund and the trusts contained in this Trust Deed, as shall from time to time be authorised by the Trustees.

5.7 Indemnity of Administration Manager

5.7.1 The Administration Manager shall not be liable for any loss which is not attributable to the Administration Manager's own dishonesty and the Trustees shall indemnify and keep indemnified the Administration Manager from the Fund against all claims demands and liabilities from Members or persons not parties to this Trust Deed, howsoever arising.

5.8 Execution of Deeds

5.8.1 If the Trustees are incorporated as a Board the Trustees shall obtain and adopt a common seal of the Board. The common seal of the Board shall be kept in the safe custody of the Administration Manager. The common seal shall only be used by the authority of the Board or of a committee of the Board authorised by the Board in that behalf, and every instrument to which the common seal is affixed shall be signed by a member of the Board and shall be countersigned by a second member of the Board or by some other person appointed by the Board for the purpose.

6 MEMBERSHIP COVERAGE

6.1 Admission of Members

6.1.1 Only Local Authorities shall be eligible for admission as Members of the Fund.

6.1.2 A Local Authority shall not be admitted to membership without first entering into a Participation Deed with the Fund in the form and on the terms acceptable to the Trustees.

6.1.3 In executing a Participation Deed the Local Authority shall agree to be bound by the terms of this Trust Deed.

6.2 Withdrawal from Membership

6.2.1 Any Member may withdraw from membership of the Fund by giving notice in writing to the Trustees of its desire to withdraw from membership, on or before the end of any Fund Year, and their membership shall terminate at the end of the Fund Year following.

6.2.2 Any notice in writing of a Member's desire to withdraw from membership may itself be withdrawn at any time prior to the termination of its membership.

6.2.3 Members who have given notice of their desire to withdraw from the Fund shall pay their Annual Contributions due for the following Fund Year.

6.3 Suspension or Termination of Membership

6.3.1 Membership of the Fund may be terminated or membership rights suspended, by resolution of the Trustees, in the event that a Member:

- (a) Refuses or fails to comply with the reasonable directions of the Trustees given for the purpose of minimizing or reducing the exposure, limiting the risks and diminishing the potential for loss or damage to its Infrastructure; or
- (b) Refuses or fails to allow an audit of the Member's management of the risk to its Infrastructure; or

(c) Omits to make or unduly delays payment of its Annual Contribution; or

(d) Commits any breach of the provisions of this Trust Deed or its Participation Deed which in the opinion of the Trustees warrants the termination or suspension of membership.

6.3.2 A former Member may if so desiring re-apply for membership, but if successful shall not thereby gain any benefit credit or entitlement accruing consequent upon their former membership.

6.3.3 The action or decision of the Trustees in any matter relating to membership or suspension or termination of membership shall be final and binding.

6.4 Coverage

6.4.1 Coverage of Members shall commence from the later of the date of payment of the initial Annual Contribution (or part thereof if so agreed) and the Extraordinary Contribution (if any, or part thereof if so agreed) as required by the Trustees or such other date as may be agreed in writing by the Trustees.

6.4.2 There shall be no Coverage of Local Authorities that are not Members.

6.4.3 Upon termination or suspension of membership all Coverage shall cease from the date of termination or suspension as the case may be, and the Member shall not be eligible for Coverage until re-admission to membership (in the case of termination) or (in the case of suspension) the lifting of the suspension by further resolution of the Trustees, or the satisfaction of any pre-condition imposed for the automatic lifting of the suspension of the Member.

6.4.4 On termination of membership all claim, right, title or interest or benefit in the assets of the Fund shall forthwith cease.

7 GENERAL PROVISIONS RELATING TO CONTRIBUTIONS

7.1 Annual Contributions

7.1.1 The Trustees shall before the end of each Fund Year:

- (a) Fix the Asset Value of each Member's Infrastructure, having regard to:
 - (i) their Stated Value;
 - (ii) any actual valuation made of a Member's Infrastructure, or any parts of it;
 - (iii) any other measure (including valuations) which may enable or assist the Trustees to assess the value of Members' Infrastructure;
 - (iv) any appropriate method or principles of valuation whether or not they are the same as those applied in any other valuation of the Members' Infrastructure or parts of it.

(b) Determine the approximate amount of total Annual Contributions to be sought from Members for the ensuing Fund Year having regard to:

- (i) the combined Asset Values of Members as determined in clause 7.1.1(a) above; and
- (ii) the risk or exposure of the Members' Infrastructure to Damaging Events; and
- (iii) possible Deductibles; and
- (iv) any other factors that seem relevant:

7.1.2 The Trustees shall after determining the approximate amount of the total Annual Contributions to be sought from Members for the ensuing Fund Year fix the Annual Contributions to be paid by individual Members, and in fixing the Annual Contributions to be paid by individual Members the Trustees shall have regard to:

(a) The risk or exposure of the Member to a Damaging Event in its region compared with the risk or exposure of Members to Damaging Events generally;

(b) The Asset Value of the Member, as determined by the Trustees pursuant to clause 7.1.1(a);

(c) The likely availability to the Member of other monies by way of compensation, indemnity, replacement or subsidy for the loss or damage to its Infrastructure, including any payment from central government, from insurance claims, and any rights against persons not party to this Trust Deed;

(d) The quantum of any Deductible for the Member which the Trustees may fix;

(e) The state of repair, maintenance and condition generally of the Member's Infrastructure or parts of it;

(f) The nature of any particular risks affecting the Member's Infrastructure;

(g) Any refusal or persistent failure by the Member to comply with any reasonable directions given by the Administration Manager for the purpose of identifying and managing risk.

7.1.3 Members shall then be advised of the Annual Contribution payable by them, and the amount of any Deductible.

7.1.4 Notwithstanding anything hereinbefore contained the Trustees may adopt or determine such methods of setting Annual Contributions or Extraordinary Contributions as they in their absolute discretion think fit.

7.2 Method of Payment

7.2.1 Payment of the Annual Contributions shall be effected by the Members in accordance with any provisions of the Participation Deed for payment, or in the absence of any such provisions as from time to time determined by the Trustees.

7.2.2 Any unpaid Annual Contribution as determined by the Administration Manager shall be recoverable by the Fund as a debt with associated interest and recovery costs.

7.3 Disputes regarding Quantum of Annual Contributions

7.3.1 If the Member disputes the quantum of any Annual Contribution it shall give written notice to the Administration Manager within twenty-one days of receipt of advice of the quantum, following which the quantum of the Annual Contribution payable by the Member shall be reviewed by the Trustees, whose decision as to the appropriate quantum to be paid shall be final and binding.

7.3.2 Where the quantum of the Annual Contribution is not determined until after the date on which payment of the Annual Contribution was due, the Member shall have ten days following receipt of advice in writing of the determination of the dispute in which to pay the Annual Contribution.

7.3.3 Except as otherwise provided above the action or decision of the Trustees in fixing the Annual Contributions shall be final and binding.

7.4 Extraordinary Contributions

7.4.1 The Trustees may fix Extraordinary Contributions.

7.4.2 Subject to clause 7.1.4 in determining the quantum of any Extraordinary Contribution as a condition of entry to membership the Trustees shall have regard to:

- (a) The number of Fund Years completed since the Commencement Date;
- (b) The net value of the assets of the Fund had there been no Distributions from the Fund;
- (c) The current value of the assets, and the amount of any liabilities of the Fund;
- (d) Any other factors which seem relevant to the Trustees.

7.4.3 In determining the quantum of any Extraordinary Contribution being fixed for Coverage of a part or portion of a Fund Year the Trustees shall have regard to the Annual Contribution that would have been payable by the Member for Coverage for the full Fund Year and, that part or portion of the Fund Year for which Coverage is being provided.

7.4.4 Any decision of the Trustees regarding the quantum of any Extraordinary Contribution shall be final and binding.

7.4.5 Any Extraordinary Contribution fixed by the Trustees that is not paid may be recovered in the same way as an Annual Contribution including associated interest and recovery costs.

8 DISTRIBUTIONS FROM THE FUND

8.1 A Member may at any time within nine calendar months (time being of the essence) of a Damaging Event apply to the Trustees for a Distribution from the Fund in respect of any loss or damage caused to the Member's Infrastructure by that Damaging Event.

8.2 Upon receiving an application for a Distribution in respect of a Damaging Event, the Trustees shall satisfy themselves that:

- (a) the loss or damage is to Infrastructure;
- (b) the loss or damage was caused by the Damaging Event.

8.3 Once the Trustees have satisfied themselves as to the matters specified in clause 8.2, they may make a Distribution to the Member in respect of its application, subject to:

- (a) any Asset Value or Stated Value of the Member's Infrastructure;
- (b) the state of repair, maintenance and condition generally of the Infrastructure or of any particular parts of the Infrastructure before and after the Damaging Event for which the Distribution is claimed;
- (c) the Member's Deductible;
- (d) the expected availability when the Annual Contribution was set and the actual availability to the Member of other monies by way of compensation, indemnity, replacement or subsidy for the loss or damage to its Infrastructure, including any payment from central government, from insurance claims, and any rights against persons not party to this Trust Deed;
- (e) the desirability of the Fund maintaining reserves for future Damaging Events;
- (f) the length of time that the Member has been a Member of the Fund;
- (g) any other factors which seem relevant to the Trustees.

The Trustees at their sole discretion will determine what if any Distribution will be made in any situation where in the Trustees' opinion the damage is a consequence of an act of war or terrorism.

8.4 Without being bound to see or being liable for not seeing to the application of any Distributions from the Fund, the Trustees shall take reasonable steps to ensure each Distribution from the Fund is applied by its Members for the reinstatement of their Infrastructure, and for that purpose, the Trustees may require from the Member reasonable evidences of the expenditure, and may make progress payments.

8.5 The Trustees may also pay the whole or any part of the Fund to any other charity that is charitable under New Zealand law and has purposes similar or related to those of the Fund.

9 ALTERATION

9.1 Alteration of the Trust Deed

9.1.1 The Trustees may amend this Trust Deed in any way, subject to this clause 9.

9.1.2 The Trustees may by unanimous resolution of the Trustees present at any validly convened meeting revoke, vary or add to any of the provisions of this Trust Deed provided no such revocation, variation or addition may be made if it would result in the Fund ceasing to qualify for registration as a charitable entity under the Charities Act 2005 or would vary the terms of this proviso or would otherwise be inconsistent with the general charitable scope of the trusts contained in this Trust Deed.

9.1.3 Every amendment shall be conditional upon and come into effect upon the Settlor giving its consent in writing.

9.1.4 Amendments shall not be retrospective in effect.

9.2 Notice to Members

9.2.1 The Trustees shall notify Members forthwith in writing of every amendment to this Trust Deed made pursuant to these provisions.

9.2.2 Any accidental failure or omission on the part of the Trustees to give a Member notice as required by this clause, or its non-receipt by a Member, shall not affect the validity of the amendment.

9.3 Alteration of Participation Deeds

9.3.1 The Trustees, with the agreement of a Member, may from time to time:

- (a) Amend any of the provisions of the Participation Deed relating to the Member; or
- (b) Cancel any Participation Deed and in substitution, enter into a new Participation Deed with a Member.

10 WINDING UP OF THE FUND

10.1 Procedures

10.1.1 The Trustees shall wind up the Fund and shall apply the provisions of this Clause in relation to every Member:

- (a) If the Trustees unanimously resolve that the Fund shall be wound up, and advise the Settlor accordingly, and the Settlor consents thereto; or
- (b) Upon the determination of the trusts hereof; or
- (c) Upon any insolvency of the Fund; or
- (d) Upon any order of the Court that the Fund be wound up.

10.1.2 The Trustees shall within fourteen days after they have resolved to wind up the Fund, lodge a copy of that resolution with the Settlor and (the Settlor consenting thereto) with the Registrar of Incorporated Societies.

10.1.3 The Trustees shall for the purpose of winding up the Fund:

- (a) Ensure that final accounts of the Fund are prepared showing the financial position of the Fund as at the date on which the winding up commenced; and
- (b) Ensure that those final accounts are audited; and
- (c) As soon as practicable after the final accounts have been audited send a copy of those accounts to the Settlor and all the Members as at the date the winding up commenced.

10.2 Allocation of Proceeds

10.2.1 Members shall have no right or claim against the Fund on winding up except in respect of any application for a Distribution made prior to the commencement of the winding up.

10.2.2 The Trustee shall apply the proceeds of the Fund in accordance with the following priority:

- (a) First, in providing for the payment of the costs of the winding up;
- (b) Secondly, in providing for the payment of all liabilities and debts of the Fund;

(c) Thirdly, paying any outstanding Distributions which the Trustees have resolved to pay any Member prior to the commencement of the winding up and remain unpaid at that date;

(d) Fourthly, in providing for payment of any Distributions for which applications have been made immediately prior to the commencement of the winding up;

(e) Finally, payment of any balance in the Fund is to be made or transferred to another organisation as decided by the Trustees that is charitable under New Zealand law and has purposes similar or related to those of the Fund, or in default of a decision by the Trustees, as directed by the Court pursuant to section 27 of the Act.

11 MISCELLANEOUS

11.1 Notices

11.1.1 Any notice or document shall be deemed to have been served upon the Trustees if left at the registered office of the Fund or if sent through the post in a registered letter addressed to the Administration Manager at that office. Any notice or document shall be deemed to have been duly given to a Member, if given generally or sent to the Member at the address of the Member last known to the Administration Manager.

11.1.2 Any notice or document delivered by post shall be deemed to have been delivered in the ordinary course of post and in proving such service it shall be sufficient to prove that the envelope or wrapper containing it was properly addressed and posted. A statement signed by the Administration Manager that a notice was so addressed and posted to a Member and when, shall be conclusive evidence of those facts.

11.2 Succession

11.2.1 If the activities of any of the Appointors are assigned to or succeeded by any other undertaking (whether a corporation, association partnership or natural person) then that other undertaking may, with the written approval of the Trustees as from the date of the assignment or succession, take the place of that Appointor for the purposes of the Fund, and assume all rights and obligations of that Appointor under the Trust Deed.

11.2.2 If the Trustees do not give their written approval of such other undertaking taking the place of that Appointor, then the Fund shall either be wound up in accordance with the provisions of this Trust Deed, or the Trustees may appoint another body to take over the role of that Appointor.

11.3 Waiver and Precedent

11.3.1 No failure by the Trustees to enforce any breach of any obligation or provision contained or implied in by this Trust, in one, or more instances shall constitute a waiver of the right of the Trustees to enforce any other provision, or any subsequent breach, whether against the same Member or another.

11.3.2 No action on the part of the Trustees or the Administration Manager whether taken in accordance with any specific provisions contained in this Trust Deed or otherwise shall be taken as a precedent for any like or similar action on either part and neither the Trustees nor the Administration Manager may thereafter be compelled to take similar or identical action consequent thereupon.

11.4 Office

11.4.1 The office of the Fund shall be at the offices of the New Zealand Local Government Insurance Corporation Limited, 9th Floor, Civic Assurance House, 114 Lambton Quay, Wellington, or at such other place as the Trustees may from time to time by resolution determine.

IN WITNESS WHEREOF this Deed has been executed on the day and year first hereinbefore written.

THE COMMON SEAL of the)
NEW ZEALAND LOCAL GOVERNMENT)
ASSOCIATION INCORPORATED was)
 hereunto affixed in the presence of:)

Signed by)
ROBERT DAVID RENNIE ELLIOTT)
 in the presence of:)

Signed by)
WYNNE ARCHDALL RAYMOND)
 in the presence of:)

Signed by)
DALE ALWYN LOTT)
 in the presence of:)

Signed by)
KINSLEY NEVILLE SAMPSON)
 in the presence of:)

Signed by)
IAN ROBERT FLOCKHART MCKELVIE)
 in the presence of:)

Signed by)
LANGLEY DAVID CAVERS)
 in the presence of:)

PARTICIPATION DEED

ADMITTING

.....

TO MEMBERSHIP OF THE NEW ZEALAND LOCAL AUTHORITY PROTECTION PROGRAMME DISASTER FUND

THIS DEED is made the ___ day of _____ 201__.

BETWEEN NEW ZEALAND LOCAL AUTHORITY PROTECTION PROGRAMME DISASTER FUND ("the Fund") and NEW ZEALAND LOCAL GOVERNMENT INSURANCE CORPORATION LIMITED ("the Administration Manager") (together called "the Administration")

AND being a Local Authority as defined in the Trust Deed ("the Member")

BACKGROUND

- A. The Trustees of the New Zealand Local Authority Protection Programme Disaster Fund are incorporated as a Board pursuant to the Charitable Trusts Act, 1957 ("the Board").
- B. The Fund is also registered as a charitable entity under the Charitable Trusts Act 1957.
- C. The Settlor of the Fund is the New Zealand Local Government Association Incorporated. The Settlor established the Fund as a self funding disaster protection scheme for the purposes of and for the objects set out in the original trust deed dated 29 June 1993. The trust deed was amended by deeds of variation dated 14 February 1997 and 5 June 2003. The trust deed was further amended and all amendments consolidated by a new trust deed dated 14 December 2007 ("the Trust Deed").
- D. The New Zealand Local Government Insurance Corporation Limited is the Administration Manager of the Fund.
- E. The Trust Deed contains provision for Local Authorities to apply for membership of the Fund, and for their admission to membership of the Fund, on the terms required by the Board.
- F. The Member has applied to become a member of the Fund, and is being admitted as a member on the terms and conditions contained herein.

NOW THIS DEED WITNESSES AND IT IS AGREED AND DECLARED

as follows:

1 MEMBERSHIP

Admission to Membership

- 1. The Member hereby covenants and agrees with the Administration to be bound by
 - (a) the terms of the Trust Deed, as if it were a party to the Trust Deed; and
 - (b) this Participation Deed;and acknowledges and accepts the powers, discretions and authorities of the Board, and the Administration Manager appointed pursuant to the Trust Deed, as provided in the Trust Deed.
- 2. In consideration of the Member agreeing to be bound by the terms of the Trust Deed, and of this Participation Deed, the Member is hereby admitted as a Member of the Fund.

Withdrawal, Suspension or Termination of Membership

Withdrawal from, termination and suspension of membership shall be effected in accordance with the provisions of the Trust Deed.

2 COVERAGE AND DEDUCTIBLE

Coverage

Coverage of the Member shall commence on the date appearing in the First Schedule and shall continue until the Member's membership of the Fund is either terminated, or the Member is suspended, as provided in the Trust Deed.

Deductible

The level of any deductible shall be fixed by the Board and the first such deductible shall be as provided in the First Schedule.

3 CONTRIBUTIONS AND DISTRIBUTIONS

Payment of Annual Contributions

- 1. The Member shall pay to the Fund its Annual Contribution as determined by the Board, within 14 days of the commencement of each Fund Year, or as otherwise agreed by the Administration in writing.
- 2. The Member shall pay the sum set out in, and in the manner provided in the First Schedule, as its first Annual Contribution.

Payment of Extraordinary Contributions

The Member shall forthwith pay to the Fund the Extraordinary Contribution set out in the First Schedule.

Distributions

- 1. The Member shall in making an application for a Distribution use any form of application which the Administration may prescribe, and shall from time to time provide such information as the Administration may reasonably require to enable it to consider the Member's application.
- 2. Any Distribution from the Fund shall be at the sole and absolute discretion of the Board, which shall, having regard to the factors set out in the Trust Deed, act in accordance with the objectives of the Fund and in the interests of all members.
- 3. The amount of the Deductible applying at the time of any Natural Disaster or Emergency or event shall be deducted from any Distribution from the Fund in respect of the same.

4 ASSET VALUES

Information Regarding Assets

- 1. The Member shall within 3 months of the commencement of each Fund Year or such lesser period as the Administration may from time to time advise:
 - (a) supply the Administration with any information regarding categories, details and condition of its Infrastructure, including any list of or register of its Infrastructure, both insured and uninsured, and any insurance particulars, which the Administration may reasonably require;
 - (b) state to the Administration in writing its estimate of the cost of reinstatement of its Infrastructure;
- 2. The Member shall advise the Administration of any additions or deletions to its Infrastructure, during the Fund Year.

5 RISK MANAGEMENT AND AUDIT

Risk Management

The Member agrees to:

- (a) introduce and maintain such programs to identify, assess and control risks applicable to its Infrastructure, as may from time to time be reasonably required by the Administration; and

- (b) notify the Administration of any matters, events or things which might be reasonably considered relevant to the assessment and management of the risk or exposure of the Member's Infrastructure to Natural Disasters and Emergencies.

Audit of Infrastructure

The Member agrees that the Administration Manager may from time to time inspect and audit the Member's Infrastructure and all records and information pertaining thereto.

6 ALTERATION

Alteration of the Trust Deed

- 1 The Member acknowledges that every alteration or amendment to the Trust Deed shall upon the consent of the Settlor being given in writing, be binding on the Member as to its terms and conditions, as if it were a party thereto.
- 2 This Participation Deed shall be deemed to be amended to the extent and in the manner (if any) required as a consequence of the amendment of the Trust Deed.

7 MISCELLANEOUS

Co-operation

The Member agrees to take all such other actions and supply such information and assistance as the Administration may reasonably require from time to time in order to give effect to the provisions and purposes of the Trust Deed and this Participation Deed, including (without limitation) following any rules or guidelines or prescribed procedures required by the Administration, not being rules guidelines or procedures inconsistent with this Participation Deed or the Trust Deed.

No Assignment

The Member may not assign its rights under this Participation Deed or any of its rights or obligations as a member of the Fund to any other person, or encumber, charge or otherwise dispose of any of its right, entitlement or interest in the Fund.

Notices

- 1 Any notice or document shall be deemed to have been served upon the Administration if left at the registered office of the Fund or if sent through the post in a letter addressed to that office.
- 2 Any notice or document shall be deemed to have been duly served on the Member, if delivered personally to the Member's chief executive officer, or if sent through the post to the Member at the address of the Member last known to the Administration.
- 3 Any notice or document delivered by post shall be deemed to have been delivered in the ordinary course of post, and in proving such service it shall be sufficient to prove that the envelope or wrapper containing it was properly addressed and posted.

8 DEFINITIONS AND INTERPRETATION

Definitions

- 1 Each of the following words and expressions shall, unless the context otherwise requires, have the following meanings:
 "the Trust Deed" means the consolidated Trust Deed dated 14 December 2007;
 "the Board" means the Trustees of the Fund and vice versa.
- 2 The words and expressions used in this Participation Deed shall unless the context otherwise requires have the same definitions as given them in the Trust Deed.

Interpretation

- 1 Unless the context otherwise requires the same interpretations shall be placed on words and phrases used in this Participation Deed as contained in the Trust Deed.
- 2 In the event of any conflict between the terms and conditions of this Deed and the provisions of the Trust Deed, the provisions of the Trust Deed shall prevail.
- 3 Nothing in this Participation Deed shall be taken to excuse the failure of the Member to perform any and each of its obligations as a Member of the Fund, nor the commission of any act in breach of its obligations as a Member of the Fund, as set out in the Trust Deed.

IN WITNESS WHEREOF this Deed has been executed on the day and year first herein before written.

THE COMMON SEAL of the **NEW ZEALAND LOCAL AUTHORITY PROTECTION PROGRAMME DISASTER FUND** was hereunto affixed in the presence of:-)
)
)

THE COMMON SEAL of **NEW ZEALAND LOCAL GOVERNMENT INSURANCE CORPORATION LIMITED** was hereunto affixed in the presence of:-)
)
)

THE COMMON SEAL of the **COUNCIL** was hereunto affixed pursuant to a resolution of the Council, in the presence of:-)
)
)

FIRST SCHEDULE

Annual Contribution:

The Annual Contribution for the period 30 June 201_ to 30 June 201_ is assessed at \$_____ plus GST, less full member discount. This is the Member's first annual contribution.

Extraordinary Contribution:

The Extraordinary Contribution is assessed at \$_____ plus GST.

In consideration of the payment of the Extraordinary Contribution Council shall immediately be entitled to full rights of Fund Membership including any discount on the assessed Annual Contribution for future years that the Fund Trustees may declare from time to time.

Deductible:

The Deductible shall be

