

17 February 2014

Mr Peter Rose  
Chief Executive Officer  
Southern Response Earthquake Services Ltd  
6 Show Place  
Christchurch 8149  
NEW ZEALAND

Dear Peter

### **Earthquake Claim Liabilities as at 31 December 2013**

We have been asked by Southern Response Earthquake Services Limited ("SRES") to make an assessment of its insurance liabilities as at 31 December 2013. SRES is the Crown-owned entity which emerged from a transaction whereby, with effect from 5 April 2012, the ongoing business of AMI Insurance Limited ("AMI") was separated from the existing AMI entity and sold to Insurance Australia Group.

The purpose of this letter is to provide an estimate of the earthquake claim liabilities for Southern Response Earthquake Services Limited ("SRES") as at 31 December 2013. This valuation is predominantly based on a roll forward of our 30 June 2013 valuation with some changes to valuation assumptions where emerging experience, or new information in respect of emerging issues, suggests changes are appropriate.

We understand that this advice will be used by SRES in preparing its management accounts. This letter does not deal with the other non-earthquake retained events that were transferred from AMI Insurance Limited to SRES at the close of business on 5 April 2012.

### **Summary of Results**

Table 1 summarises our estimates of SRES' earthquake liabilities at 31 December 2013. The line below the table indicates our estimate of the total amount which will be ultimately paid once all claims are settled (including payments already made but excluding SRES CHE expenses). This represents our central estimate of the ultimate liability which is recoverable under SRES's reinsurance treaties. Our recommended provisions incorporate a risk margin which we believe to be consistent with the requirements to establish provisions which incorporate at least a 75% probability of sufficiency.



**Table 1 – Recommended EQ Provisions at 31 December 2013**

Provisions for Outstanding Claims as at 31 Dec 2013	Cat 93	Cat 106	Cat 112	Total		
	4-Sep-10 \$m	22-Feb-11 \$m	13-Jun-11 \$m	Major \$m	Minor \$m	Overall \$m
<b>Gross Incurred Cost in 31 Dec \$ before EQC</b>	926.5	1,929.7	82.4	2,938.6	42.2	2,980.8
Expected EQC Share	-308.4	-497.5	-31.3	-837.1	-14.3	-851.4
<b>Gross Incurred Cost in 31 Dec \$ after EQC</b>	618.1	1,432.2	51.1	2,101.5	27.9	2,129.4
less paid to 31 Dec 2013	-352.5	-466.9	-12.3	-831.6	-12.7	-844.3
<b>Gross Outstanding Claims</b>						
In 31 Dec 2013 Values	265.6	965.3	38.9	1,269.8	15.2	1,285.0
Allowance for Future Inflation	34.2	94.9	4.4	133.6	1.9	135.5
Inflated Values	299.8	1,060.3	43.3	1,403.4	17.1	1,420.5
Discount to Present Value	-11.7	-39.0	-1.5	-52.2	-0.5	-52.6
<b>OSC Discounted to 31 Dec 2013</b>	<b>288.1</b>	<b>1,021.3</b>	<b>41.8</b>	<b>1,351.2</b>	<b>16.6</b>	<b>1,367.9</b>
Claims Handling						
<b>Gross Central Estimate</b>						
Catastrophe R/I Recoveries	-240.5	-132.7	-41.8	-415.0	-9.4	-424.4
Aggregate R/I Recoveries	0.0	0.0	0.0	0.0	0.0	0.0
<b>Net Central Estimate</b>	<b>62.2</b>	<b>940.2</b>	<b>2.1</b>	<b>1,004.5</b>	<b>8.1</b>	<b>1,012.6</b>
Risk Margin						
<b>Recommended provision</b>						
<b>Inflated Gross Central Estimate (Incl paid to date, excl CHE)</b>	<b>652</b>	<b>1,527</b>	<b>56</b>	<b>2,235</b>	<b>30</b>	<b>2,265</b>
<b>Change on 30 Sep 2013 Valuation</b>	<b>27</b>	<b>-11</b>	<b>-1</b>	<b>15</b>	<b>-5</b>	<b>10</b>

withheld under section 9(2)(b)(ii)

Since 30 September 2013 there has been an increase of around \$10 million in the central estimate of the gross inflated ultimate cost. This is largely a result of a higher level of forecast project management costs included in this valuation. During the quarter some data reviews were undertaken which resulted in some reallocation of costs towards the September event away from the February event. We provide detailed comments on the impact of the data reviews later in this letter.

There has been an increase of \$17 million in the project management costs allowance. Half of the increase relates to a refinement of the basis on which the forecast estimates were previously prepared. The remainder relates to additional costs anticipated from the management effort for the "tail" claims – that is, the complicated claims expected to be dealt with towards the end of the construction process.

The impact of the higher project management costs has been moderated by a reduction of \$7 million in the estimated claims cost (net of EQC but gross of reinsurance).

Table 2 shows the main components of cost underpinning our overall estimate of SRES' ultimate earthquake liabilities.

**Table 2 – Estimated Ultimate EQ Liabilities at 31 December 2013**

	30 Jun 13	30 Sep 13	31 Dec 13	Mov't from Jun 13	Mov't from Sep 13
	\$m	\$m	\$m	\$m	\$m
<b>Ultimate Outflows</b>					
Over Cap	2,558	2,577	2,547	-11	-30
Out of Scope	288	274	282	-6	8
Other	147	149	148	1	-1
Claims Cost (Excl Arrow)	2,993	3,000	2,977	-16	-23
Project Management Costs	█	█	█	█	█
SRES Claims Handling	127	124	132	5	9
<b>Ultimate Inflows</b>					
EQC Contributions	872	880	864	-8	-16
Reinsurance Recoveries	1,274	1,250	1,243	-31	-7
	2,146	2,129	2,107	-39	-22
<b>Gross Outflow (net EQC, ex CHE)</b>	2,255	2,255	2,265	10	10
<b>Net Outflow (net of RI)</b>	█	█	█	█	█
<b>Cum. Paid Net of EQC (excl CHE)</b>	667	747	842	175	95
<b>Net Liability</b>					
Central Estimate	974	993	1,013	38	20
Risk Margin	█	█	█	█	█
Provision Required	█	█	█	█	█

withheld under section 9(2)(b)(ii)

The ultimate cost of claims (net of EQC, excluding CHE) has increased by \$10 million before reinsurance since the September 2013 valuation. A greater allocation of the EQC contributions to the two December events has reduced the net of EQC claims cost estimate for these events. This also reduces the reinsurance recoveries attributable to these events by around \$6 million, without an offsetting increase in the September or February recoveries since these events have exceeded the limit of cover. We comment further upon the change in allocation below.

Furthermore, an additional \$9 million in forecast claims handling expenses results in a total increase of \$25 million in estimated ultimate claims costs (net of reinsurance). Of the increased claims handling expense allowance, around half relates to the costs anticipating from managing the “tail”. The other half relates to the additional resources required for SRES to manage the “normal” claim settlement process.

There has also been some reallocation of claims costs from Over Cap claims to Out of Scope, which we comment on further below.

For comments on the movements between June and September the reader is referred to our 30 September 2013 valuation letter dated 23 October 2013.

## Key Observations

### Project Management Costs and Claims Handling Expenses

Project management cost and claims handling expense forecasts were both increased for this valuation. There was an increase of \$17 million in forecast project management costs. Half of the increase related to a refinement of the previously prepared estimates of project management costs. The remainder relates to additional costs anticipate to arise from the management of the “tail” claims – that is, the complicated claims expected to be dealt with towards the end of the construction process.

The claims handling expense estimate was also increased, by \$9 million, \$5 million of which reflects the additional costs anticipated in dealing with “tail” claims.

### Claims Costs

Excluding project management costs and CHE, there has been a small decrease in the estimated gross liabilities and there has been some reallocation of costs from the February event to September. During the quarter some data reviews took place which resulted in:

- a number of claims previously identified as Over Cap becoming Under Cap and/or Out of Scope Only (OOS)
- a number of DRAs that were previously treated as invalid (due to either missing information or having event splits that did not add up to 100%) and therefore excluded from our analysis being corrected and included in our analysis of EQC endorsement outcomes this time.

The reviews resulted in some reallocation of costs towards the September event away from the February event. This has no impact upon SRES' net liabilities since both events have exceeded the limit of cover. However, the previously invalid DRAs (which were excluded from our endorsement analysis) had a higher allocation of EQC contributions for the December events.

As a result, our view of the EQC contributions relating to the December events has increased (with a small decrease in expected contributions for the February event). This change actually increases the net liability to SRES as it means the “benefit” arising from EQC contributions that would otherwise be due to SRES, will now in effect reduce reinsurers' liabilities for the December events.

The release of the risk margin on payments made in the quarter, and a small increase in the discount rate offset some of this increase, such that the provision has only increased by \$13 million. We note that at the time of preparing these results we did not have available NZ Treasury's 31 December 2013 discount rates. Instead we have used estimates of the NZ yield curve prepared internally by Finity. Our estimates will not match precisely the Treasury discount rates, but should be broadly similar.

We note that there were a number of other movements to the underlying assumptions. The key changes were as follows –

## *Over Cap*

The estimate of Over Cap claim inflated costs has decreased by \$30 million since September 2013.

Changes contributing to the reduction are as follows -

- A reduction in Over Cap claims by around 130 properties (compared to September 2013). This change followed the data reviews which resulted in a number of claims previously flagged as Over Cap going Under Cap
- A small release arising from escalation being lower than anticipated in the December quarter

The reductions were partly offset by an increase of \$4 million in the expected cost of enhanced foundations costs for TC3 and TC2 properties. The higher estimated costs reflect the latest costing of foundation options prepared by Arrow. Arrow has observed that builders are demanding higher rates for enhanced foundations than previously anticipated.

## *Out of Scope (OOS)*

Our estimate of the ultimate cost of OOS claims has increased by around \$8 million, reflecting an increase in the estimated ultimate number of OOS claims; with no change in the assumed claim size. The increased number of OOS claims is predominantly a result of the data clean ups that have transferred some of the liability from the Over Cap group to the OOS claims.

Through the course of our work we identified a number of issues in the data underlying our analysis of OOS claim sizes. SRES management are aware of the issues and are pursuing their resolution. We are satisfied that the issues, together with adjustments in our analysis in response to the issue, should not have a material impact on the valuation.

The remediation of the issues in the analysis for this valuation means that the potential reduction in the assumed OOS claim size identified at September 2013 is unlikely to be realised. The average claim size assumed at December 2013 is unchanged from the assumed size at September 2013.

## *Escalation*

Escalation experience over the last two quarters has been more benign than anticipated in our 30 June 2013 valuation. This has been borne out in both SRES' experience from the contract outcomes agreed with builders, as well as the broader Christchurch experience.

Our escalation assumptions at June (and subsequently September) were based on Treasury's national level forecasts prepared prior to June 2013. That forecast showed a very high peak of escalation over the second half of 2013, with escalation pressures easing off quickly thereafter. Treasury's revised forecasts now suggest a lower peak but escalation pressures taking longer to ease off. We have revised our escalation assumptions to reflect the change in shape of escalation being forecast by Treasury.

As such, we have adjusted the shape of our assumed escalation pattern (to be less "peaky" and more sustained) but with a similar assumption to previous valuations about the longer term impact

of escalation. Thus, the total level of escalation allowed for (past and future) is similar to previous valuations.

### *Payment Pattern*

The payment pattern assumptions have been revised so that they are aligned with the forecasts agreed by SRES and Arrow, using the construction forecast tool, Proteus. Previously, we had adopted a high level projection of constructions starts in forming our payment pattern. The existence of Proteus forecasts provides a more robust basis on which to form our payment pattern assumptions. Details of the determination of the payment pattern can be found in Attachment A to this letter.

The new payment pattern has changed the “shape” of expected cash flows. However, there has been virtually no impact on the mean term of the liabilities, and thus the impact of escalation and discounting in determining the provision has also been negligible.

### *Other areas*

There were very minor adjustments made to other claim type assumptions.

## Land Issues

### *Enhanced Foundation Costs*

There remains uncertainty in regard to the division of responsibility (between EQC and the private insurers) for the costs involved in remediating land to a standard suitable for building on, particularly in TC3. Land damage classifications previously prepared by the EQC suggest there may be around 200 such properties where EQC’s land payments will become a contribution to the cost of enhanced foundations; in others to land remediation. Assuming SRES is able to recover the full cost of the enhanced foundations for these properties (around \$42k per property), SRES can expect to recover around \$8 million in land damage compensation.

Our valuation basis assumes recoveries of around \$8 million in respect of enhanced foundation costs. The actual outcome will depend upon the terms ultimately agreed with the EQC.

### *Hills Mass Movement Issues*

During December 2013 a GNS Science report highlighted a number of homes in the Hills area with land stability issues. SRES estimates that it is responsible for around 40 properties in the most severely affected category. These properties will likely require more complicated (and thus more costly) engineering and foundation solutions. Partly in anticipate of these issues, the contingency for Hills properties was increased from 10% to 15% by Arrow during the September quarter. This higher contingency is included in our claim size basis for Hills properties.

Given the small number of properties affected, and the higher contingency already adopted across Hills properties (not just the 40 properties affected), we have not made any further adjustments to the valuation in respect of this issue. However, we will continue to monitor experience as it emerges and respond accordingly, if needed, in future valuations.

## Flexible Claim Settlement and Dispute Resolution Processes

SRES is implementing some initiatives to streamline the process by which disputed claims can be settled. There are two initiatives being launched –

1. An agreement with the Insurance and Savings Ombudsman (ISO) to allow it to rule on customer disputes that it currently does not have jurisdiction over (the ISO is limited to claims under \$200k), instead of going through court proceedings
2. Greater flexibility for claim managers to resolve disputes.

Both initiatives are intended to accelerate the dispute resolution and claim settlement process. At this stage we have made no additional allowance in our valuation for the impact of either initiative as it is expected that additional costs, if any, will be offset by the impacts of a speedier resolution

We will continue to monitor the experience as it emerges and respond appropriately in future valuations (if required).

## Uncertainty of our Estimates

It should be noted that considerable uncertainty still surrounds the projection and valuation of SRES' EQ liabilities. In this regard, some points to be noted include:

- while SRES has progressed most of the way through the damage assessment phase, a large proportion of the overall incurred cost is yet to be settled
- there remains some uncertainty as to the eventual cost of enhanced foundations in TC3 and TC2 properties, and the extent of land remediation compensation SRES will receive from the EQC in respect of these issues
- the run-off is, of course, still exposed to the “normal” sources of variability in claims experience; particularly the rate of building cost escalation in Canterbury. In the case of Canterbury, the sheer scale of the construction programme across both residential and commercial sectors and the complexity introduced by the interplay with the cover provided by EQC act to magnify the potential variability of ultimate outcomes (as compared to ‘normal’ residential property claims).

In response to inherent uncertainties, we have maintained our risk margin at 10% of the estimated liability (net of EQC contributions but gross of reinsurance recoveries). Under accounting standards, in response to the inherent uncertainty, it is expected that provisions will contain a margin sufficient to produce at least a 75% probability of sufficiency.

While the unique nature of the Canterbury events makes it impossible to derive with any accuracy a precise probability for various levels of risk margin, we are of the view that the margin adopted is sufficient to produce a probability of sufficiency of at least 75%.

## Reliances and Limitations

This letter has been prepared for the use of SRES for the stated purpose. We understand that a copy of the letter may be provided to the Board of SRES. No other use of, nor reference to, our

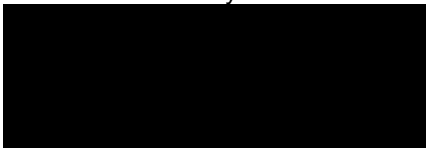


letter other than as required by the Crown, should be made without prior written consent from Finity, nor should the whole or part of our letter be disclosed to any unauthorised person.

Third parties, whether authorised or not to receive this letter, should recognise that Finity will not be liable for any losses or damages howsoever incurred by the third party as a result of them receiving, acting upon or relying upon any information or advice contained in the report.

Our letter should be considered as a whole. Members of Finity staff are available to answer any queries, and the reader should seek that advice before drawing conclusions on any issue in doubt.

Yours sincerely



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## A Payment Pattern

### Overview

During the second half of 2013 SRES engaged Finity to build a throughput model in order to forecast construction stage progress for Arrow managed rebuilds and repairs. As part of this work, Finity developed “Proteus”, a forecasting model that projects progress through the various construction phases based upon an analysis of historic experience and assumptions about future experience. During November 2013 Finity, SRES and Arrow worked to produce a set of projections that were agreed upon by SRES and Arrow management.

For the December 2013 valuation we have updated our payment patterns for Arrow Managed Over Caps to correspond to the Proteus construction projections. Arrow also provided a breakdown of the expected timing of cash flows through the construction process. The projected construction starts, and pattern of cash flows expected through the construction, were then combined to produce a more robust view of the payment pattern than previously possible.

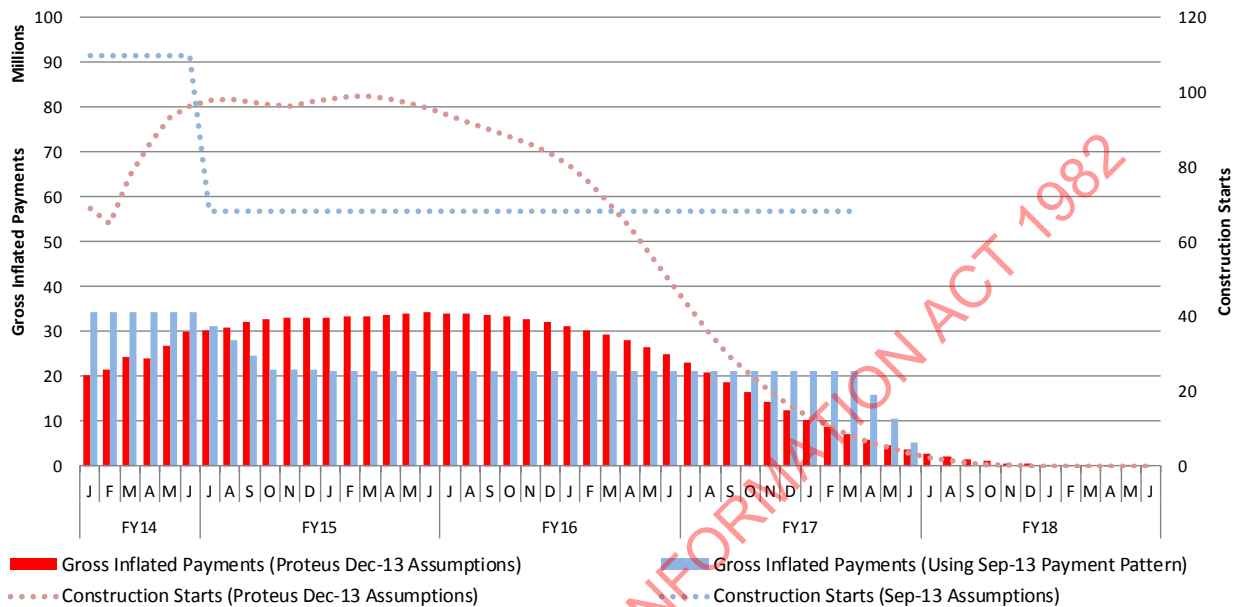
### Cost Allocation by Project Stream

We have adopted the following cost allocation to the Builders Work and Arrow Costs by project stream, provided by Arrow:

Cost Component	Group Home Builds		Design & Build		Repairs	
	Timing	Cost Allocation	Timing	Cost Allocation	Timing	Cost Allocation
Contract Award	At contract signing	5%	-	-	-	-
Foundation	6 weeks after site establishment	12.5%	At site establishment	10%	At site establishment	20%
Structure	6 weeks after site establishment	12.5%	1 month after Foundation	10%	Monthly payments of 20%, 20% and 30%	
External Envelope	6 weeks after Foundation & Structure	20%	1 month after Structure	10%		
Services and Internal Fittings	8 weeks after external envelope	25%	Monthly at 10% for 2 months after External Envelope	10%		
Internal Innings	-	-	1 month after Services and Internal	20%		
Final Internal Fit Out	3 weeks after Services and Internal Fittings	20%	1 month after Internal Innings	20%		
External Hard Surfaces	-	-	1 month after Final Internal Fit Out	5%		
Completion	At completion	5%	At completion	15%		At completion

## Arrow Managed Over Caps Payment Pattern

The resultant payment pattern of Arrow Managed Over Caps gross inflated cash flow (before EQC and RI recoveries) is shown in the graph below:



The agreed forecast now projects a construction start schedule that peaks in early FY15. The cash flows take a longer time to ramp up than previously anticipated, but are sustained at a high level for longer period, with a smaller amount of cash flows in the “tail”. As such, while the peak of payments is expected to be later than previously expected, the smaller amount of tail payments means that the mean term of payments is largely unchanged.

## Cash Settlements Payment Pattern

Based on discussions with SRES management, we have extended the timeframe over which the cash settlement payments will be completed . It is anticipated that cash settlements with CERA for Red Zone properties will occur in the first six months of 2014. The exact timing remains unclear and we note that this settlement has been delayed a number of times.

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