

STRICTLY CONFIDENTIAL

Insurance Liabilities at 30 June 2017

Southern Response Earthquake Services

August 2017

RELEASED UNDER THE OFFICIAL INFORMATION ACT 1982

31 July 2017



Mr Ross Butler
Chairman
Southern Response Earthquake Services Limited
PO Box 9052
Tower Junction
CHRISTCHURCH 8149
NEW ZEALAND

Dear Ross

Valuation of Insurance Liabilities at 30 June 2017 for Southern Response Earthquake Services

We are pleased to enclose our report in respect of the valuation of the insurance liabilities of Southern Response Earthquake Services as at 30 June 2017.

This valuation has been prepared in compliance with the International Financial Reporting Standards which are applicable in New Zealand and the liabilities are suitable for inclusion in Southern Response's NZ IFRS 4 balance sheet. It has also been conducted in accordance with the Australian Actuaries Institute's Professional Standard 300 and Professional Standard 30 issued by the New Zealand Society of Actuaries.

Please do not hesitate to contact us if you wish to discuss any aspect of this report.

Yours sincerely

9(2)(a)

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Insurance Liabilities at 30 June 2017

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Part I Executive Summary

Introduction and Scope

We have been asked by Southern Response Earthquake Services Limited (“SRES”) to make an assessment of its insurance liabilities as at 30 June 2017. 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 report is to assist SRES in setting their outstanding claims provisions for balance sheet purposes. This valuation has been prepared in compliance with the International Financial Reporting Standards which are applicable in New Zealand (‘NZ IFRS 4’). It has also been conducted in accordance with the Australian Actuaries Institute’s Professional Standard 300 and Professional Standard 30 issued by the New Zealand Society of Actuaries.

The “High Level” Results

Table 1 sets out a high level summary of the main components of cost underpinning our estimate of SRES’ ultimate earthquake liabilities, together with a comparison to the results adopted in our 30 June 2016 valuation.

Table 1 – High Level Summary of Results

	30 Jun 16	30 Jun 17	Mov’t from Jun 16
	\$m	\$m	\$m
Ultimate Outflows			
Over Cap	3,210	3,603	393
Out of Scope	338	334	-4
Other	153	153	0
Claims Cost (Excl PM Cost)	3,701	4,090	389
Project Management Costs	█	█	█ 9(2)(b)(ii)
SRES Claims Handling	█	█	█ 9(2)(i)
Ultimate Inflows			
EQC Contributions	996	1,032	36
Reinsurance Recoveries	1,259	1,291	31
	2,256	2,323	67
Gross Outflow (net EQC, ex CHE)	2,903	3,264	360
Net Outflow (net of RI)	█	█	█ 9(2)(i)
Cum. Paid Net of EQC (excl CHE)	2,228	2,690	463
Net Liability			
Central Estimate	701	563	-138
Risk Margin	█	█	█ 9(2)(i)
Provision Required	█	█	█ 9(2)(i)

The valuation results indicate the likely ultimate cost has continued to increase over the last twelve months. In this period, the ultimate cost of claims (net of EQC, excluding CHE) has increased by \$360 million, before reinsurance. The increase is attributable to a number of factors –

- An increase in the number of Over Cap properties expected to emerge from the EQC settlement program (541 more properties projected to be Over Cap compared to June 2016)
- Continued deterioration in the settlement experience relative to DRA estimates, over and above the allowances we had made previously. This experience appears to be linked to the greater levels of complexity associated with the claims that are still outstanding. The increased complexity and cost relates to:
 - ▶ More complex damage being dealt with in TC3 properties, which has given rise to greater levels of scope related increases (relative to the DRA scope) being required to reach settlement
 - ▶ Additional costs that are incurred in resolving customer disputes (particularly the greater level of professional fees that are incurred through the dispute resolution process), which are not included in the DRA estimates
 - ▶ An expectation that a greater proportion of the outstanding claims will be the subject of some customer dispute
 - ▶ A higher likelihood of scope related increases being incurred before the settlement basis can be agreed (including Repairs turning into Rebuilds in some cases).

Project management costs and claims handling expenses have increased by ■ million and ■ million respectively. These relate mainly to refinements to forecasts, taking into account the increasing volumes of Over Caps.

9(2)(b)(ii)

9(2)(i)

A detailed reconciliation to 30 June 2016 can be found in Section 6.3.

Allowance for Uncertainty

In March 2016, we had conducted a formal assessment of the various layers of uncertainty and risk attaching to our central estimate. In light of that assessment, we had adopted a risk margin of 14% to apply to the central estimate. The risk margin is intended to achieve a 75% Probability of Sufficiency. This risk margin was adopted when setting the provision at 30 June 2016.

This analysis underlying the risk margin work was updated in late 2016, as part of a broader piece of work that was carried out to assess SRES' capital needs. The updated analysis confirmed that the 14% risk margin remained adequate in order to achieve the targeted 75% Probability of Sufficiency.

For this valuation, while we have not conducted a formal assessment of the risk margin, we have considered how the key areas of uncertainty identified in last year's review have progressed and whether there are new any new areas contributing to the uncertainty. This assessment is set out in Section 6.4. In our view the overall level of uncertainty surrounding the June 2017 valuation is broadly similar to the uncertainty at June 2016, and therefore we have continued to adopt a risk margin of 14% for this valuation. This outcome reflects some offsetting factors:

- As the claim settlement process has progressed, an increasing proportion of SRES' outstanding claims relates to more complex claims, meaning the uncertainty around future settlement outcomes for outstanding claims is magnified (as compared to 'normal' residential property claims).
- While the profile of outstanding claims is more complex, the increasing maturity of the information about claims means that the estimates recorded by Arrow and SRES more accurately reflect their inherent complexity
- However, we have made adjustments to our projection approach for this valuation to deal with some specific areas of risk in the run-off, which means some of the run-off risks are dealt with explicitly, where they were only accounted for implicitly in our previous valuation methodology.

In our view, there remain two key areas of uncertainty which could result in material adjustments to the ultimate outcome for SRES' remaining claims:

- the volume of future new Over Cap claims which might emerge, and the proportion of these which will ultimately be the subject of dispute and/or litigation
- higher than allowed escalation in settling the remaining body of outstanding claims, including the additional costs involved in settling disputed and litigated claims

Recommended Provisions as at 30 June 2017

Table 2 sets out our recommended provisions as at 30 June 2017 for the three main events and for all others combined.

Table 2 – Recommended Provisions as at 30 June 2017

Provisions for Outstanding Claims as at 30 Jun 2017	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
Gross Incurred Cost in 30 Jun \$ before EQC	1,073.2	3,033.6	139.1	4,246.0	50.4	4,296.4
Expected EQC Share	-317.8	-665.0	-41.1	-1,024.0	-9.1	-1,033.0
Gross Incurred Cost in 30 Jun \$ after EQC	755.4	2,368.6	98.0	3,222.0	41.3	3,263.3
less paid to 30 Jun 2017	-675.9	-1,905.7	-72.9	-2,654.4	-36.0	-2,690.5
Gross Outstanding Claims						
In 30 Jun 2017 Values	79.5	462.9	25.2	567.6	5.3	572.8
Allowance for Future Inflation	0.1	0.2	0.0	0.3	0.0	0.3
Inflated Values	79.6	463.1	25.2	567.8	5.3	573.1
Discount to Present Value	-1.4	-8.2	-0.4	-10.0	-0.1	-10.1
OSC Discounted to 30 Jun 2017	78.2	454.9	24.7	557.8	5.2	563.0
Claims Handling						
Gross Central Estimate						
Catastrophe R/I Recoveries	0.0	0.0	-24.7	-24.7	-1.6	-26.3
Aggregate R/I Recoveries	0.0	0.0	0.0	0.0	0.0	0.0
Net Central Estimate						
Risk Margin						
Recommended provision						
Inflated Gross Central Estimate (Incl paid to date, excl CHE)	756	2,369	98	3,222	41	3,263.6
Change on 31 Mar 2017 Valuation	-76	40	6	-29	4	-25
Change on 30 Jun 2016 Valuation	-55	384	30	358	2	360

We have made a number of changes to the valuation basis since the 30 June 2016 valuation. The result of the changes is an increase of around \$360 million in our estimate of the inflated gross incurred cost when compared to the estimate at 30 June 2016.

Reliances and Limitations

A number of important reliances and limitations attach to the advice set out in this report. These are set out in Section 1.5 of Part II of this report.

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Part II Detailed Findings

1 Introduction and Background

1.1 Purpose and Scope

We have been asked by Southern Response Earthquake Services Limited (“SRES”) to make an assessment of its insurance liabilities as at 30 June 2017. 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 report is to assist SRES in setting their outstanding claims provisions for balance sheet purposes. This valuation has been prepared in compliance with the International Financial Reporting Standards which are applicable in New Zealand (‘NZ IFRS 4’). It has also been conducted in accordance with the Australian Actuaries Institute Professional Standard 300 and Professional Standard 30 issued by the New Zealand Society of Actuaries.

1.2 SRES’ Insurance Liabilities

There are two parts to SRES’ insurance liabilities:

- claims incurred by AMI arising from the various Canterbury earthquake events (“EQ losses”) which had occurred up until 5 April 2012. These liabilities are the subject of this report.
- claims incurred from certain other events specified by the Sale and Purchase agreement; these claims relate to events and incidents where there have been, or where it is anticipated that there will be, reinsurance recoveries on the losses incurred by AMI. We do not report on these liabilities in this report as the outstanding amount relating to these claims at 30 June 2017 is not material. SRES have estimated the outstanding amounts to be less than \$200k. We have reviewed their estimate and are satisfied it is reasonable. The results are set out in Appendix G.

The following sets out in more detail the events covered and the types of losses involved.

1.2.1 Events Covered

SRES’ insurance liabilities relate almost solely to claims for certain events which occurred up until the time of separation from the ongoing business on 5 April 2012. Table 1.1 lists the EQ events for which SRES is responsible for the outstanding claims liabilities.

Table 1.1 – Earthquake events covered by SRES

Earthquake Events	SRES CAT Code
4-Sep-10	93
19-Oct-10	97
26-Dec-10	99
20-Jan-11	103
22-Feb-11	106
16-Apr-11	107
6-Jun-11	111
13-Jun-11	112
21-Jun-11	114
9-Oct-11	117
23-Dec-11	122

1.2.2 Policy Coverage

For the listed events, SRES is responsible for damage across a range of products issued by AMI, as follows:

- House
 - ▶ Over Cap (“OC”) Physical Damage – Damage to buildings in excess of the amount covered by the Earthquake Commission (“EQC”), which is currently capped at \$100,000 (excluding GST), noting that the majority of AMI policies provided for full replacement value and as such do not have specified sums insured
 - ▶ Out of Scope (“OOS”) Physical Damage – Cover for damage to sheds, fences, driveways, swimming pools, which are not covered by EQC
 - ▶ Loss of Rent - For investment properties, cover for loss of rental income while the building is uninhabitable.
- Contents
 - ▶ Over Cap Damage – Damage to Contents in excess of EQC cover of \$20,000 (excluding GST)
 - ▶ Temporary Accommodation – The cost of temporary accommodation is covered for up to 12 months and is subject to a maximum of 25% of Contents sum insured (noting that AMI has agreement from reinsurers to extend the period to 12 months from the 6 months specified in its policy wording).
- Other products
 - ▶ Comprehensive Motor, Farm and Boat – Earthquake related damage covered similarly to other types of damage.

1.2.3 Management of Claims

Table 1.2 summarises how the liabilities and the physical management of claims were split between SRES and the ongoing AMI business entity. Service level agreements have been put in place with the objective of ensuring that appropriate service levels are delivered by both organisations.

Table 1.2 – Division of Claims Responsibilities

Obligation	Products	Financial Responsibility for Any Liability	Physical Management of the Matter
Settled, open and future claims on eligible EQ events occurring up until completion	House, Farm Motor, Boat	SRES SRES	SRES AMI/IAG NZ
Settled, open and future claims on non-EQ events occurring up until completion and which trigger AMI's reinsurance cover	All	SRES	AMI/IAG NZ
All other settled, open and future claims on incidents occurring up until completion	All	AMI/IAG NZ	AMI/IAG NZ
All future obligations emerging after completion on policies in force at completion	All	AMI/IAG NZ	AMI/IAG NZ
Any obligations arising after completion on expired policies and not falling into a category listed above	All	AMI/IAG NZ	AMI/IAG NZ

1.2.4 Contract Works

We also note that, as part of managing the earthquake claims run-off, SRES is assuming a level of Contracts Work exposure (up to \$5,000 per property). This exposure is largely reinsured and as such is not likely to generate any losses of a material nature. For this assessment we have assumed that SRES' contract works exposure is effectively embedded within the claims cost estimates underpinning our projection of ultimate costs.

1.3 Nature of Estimates

The estimates of outstanding claims in this report have been prepared initially on a central estimate basis. The valuation assumptions have been selected such that the estimates of these liabilities contain no deliberate overstatement or understatement. The central estimate is intended to be a mean of the distribution of outcomes.

The liability cannot be estimated with certainty due to, among other things, random fluctuations in experience and changes in the external environment. Because of this uncertainty, we believe that balance sheet provisions should include a risk margin above the central estimate. Consistent with NZ IFRS 4, we have included a risk margin in the provision that we believe is sufficient to produce at least a 75% probability of sufficiency.

Under NZ IFRS 4, insurers must discount expected future claim payments for the time value of money. All results have been estimated gross and net of reinsurance recoveries. All claims data supplied for the valuation was net of GST for all lines of business. The valuation results in this report are, therefore, net of GST.

1.4 Structure of Report

The remainder of this report contains the following:

- Section 2* - describes the approach used to value the outstanding claims liabilities, the data supplied for this valuation, details of reconciliations performed and control processes
- Section 3* - documents the analysis of the Over Cap claims together with our valuation assumptions
- Section 4* - documents the analysis and valuation assumptions for Out of Scope and other covers for which EQ losses have been incurred
- Section 5* - sets out the basis behind other assumptions required to form our recommended provisions for SRES' EQ liabilities
- Section 6* - summarises the outstanding claims valuation results at 30 June 2017 and sets out the key uncertainties affecting our valuation of the EQ liabilities.

The Appendices to this report provide more detail on the data provided, the analysis undertaken and the valuation results.

1.5 Reliances and Limitations

This report is being provided for the sole use of SRES for the purposes stated in Section 1.1 of this report. It is not intended, nor necessarily suitable, for any other purpose. This report should only be relied on by SRES for the purpose for which it is intended.

You can provide the report to the auditor of the 2017 financial statements and to New Zealand Treasury. It may also be passed onto other parties involved in the audit of the Crown's accounts. If you do this, you should provide the report in full. The auditor must only use the report in connection with its work as your auditor. The auditor should confirm whether our conclusions are appropriate.

No other distribution of the report is allowed, unless we give our approval in writing. Any third party receiving this report should not rely on it, and this report is not a substitute for their own due diligence. We accept no liability to third parties relying on our advice.

Please read the report in full. If you only read part of the report, you may miss something important. If anything in the report is unclear, please contact us. We are always pleased to answer your questions.

We relied on the completeness and accuracy of the information we received. If the information provided to us is inaccurate or incomplete, please let us know as we may need to change our advice. We did not audit or verify the information provided to us, but have reviewed it for general reasonableness and consistence.

Many things may change in the future. We have formed our views based on the current environment and what we know today. If future circumstances change, it is possible that our findings may not prove to be correct. It is not possible to put a value on outstanding claim liabilities with certainty. Differences between actual experience and our estimates are normal and to be expected.

As well as difficulties caused by limitations on the historical information, outcomes remain dependent on future events, including legislative, social and economic forces. We have generally assumed that the run-off of claims will proceed as in the recent past, and we have not anticipated any extraordinary changes to the legal, social or economic environment (or to the interpretation of policy language) that might affect the cost, frequency or future reporting of claims. It is quite possible that one or more changes to the environment could produce a financial outcome materially different from our estimates.

It has been assumed that any amounts arising from the reinsurance programs protecting SRES will be fully recoverable on a prompt basis. If any reinsurance proves not to be recoverable (either through insolvency of a reinsurer or contract dispute) the net liability of SRES could be higher. We are not aware of any current reinsurer solvency problems or disputes over reinsurance recoveries.

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2 Approach and Information

2.1 Approach to Estimating EQ liabilities

2.1.1 Our Actuarial “Roadmap”

Our approach to the analysis and assessment of the emerging experience for SRES' EQ losses aims to respond to the various stages and avenues that claims can progress through. Figure 2.1 depicts the claims process from an actuarial viewpoint, noting that the settlement options open to claimants mean that the selection of ultimate average claim sizes requires consideration of a range of issues.

9(2)(b)(ii)



The approach is largely unchanged from last year, albeit the issues, and therefore the focus of our analysis, have progressed. The red shading indicates the areas of focus at 30 June 2017. It can be seen that the focus is largely on the settlement outcomes being achieved relative to the recorded DRA estimates, and the new Over Caps that continue to be received as a result of the ongoing reopening of EQC only Under Cap claims.

2.1.2 Deriving Provisions for Outstanding Claims

At a high level, the calculation of SRES' ultimate liability for each event relies on a relatively small number of parameters for each of the covers for earthquake damage provided under AMI's various products:

- Gross Claims Cost:
 - ▶ Ultimate number of claims

- ▶ Ultimate average claim size (net of expected EQC contributions)
- Translating to Recommended Provision
 - ▶ Spread amount still outstanding according to expected pattern of future payments
 - ▶ Deduct expected reinsurance recoveries
 - ▶ Discount to present value at risk free rate
 - ▶ Load for claims handling expenses, project management costs and risk margins.

Our valuation has essentially followed this approach, but with differences for the various covers, in how we have derived our estimates of the ultimate claim numbers and of the ultimate average claim size. Our estimates of outstanding claims at 30 June 2017 are derived by deducting from ultimate costs actual payments made up until 30 June 2017.

In relation to EQC contributions, we note that the 'normal' procedure is that EQC settles its claim directly with the policyholder and that this amount, together with the deductible payable under the EQC cover, becomes the AMI policyholder's contribution to the rebuild or repair being undertaken by SRES. As such it is the net amount which becomes the liability in SRES' balance sheet.

2.1.3 Covers Other Than House Physical Damage

For the less significant parts of SRES' liabilities (Loss of Rent, Contents, and Temporary Accommodation) our approach has essentially followed a "traditional" approach, by taking views on how the experience reported to date is likely to develop over future periods.

For Lost Rent:

- A Payment-Per-Active-Claim (PPAC) method is used to project the ultimate liability. Future claim finalisations are projected based on historical experience. These can be used to derive the number of claims active at each point in the future. We also project the payments to be made per active claim per month to estimate the outstanding payments. The projections allow for a small number of incurred but not reported (IBNR) claims, using a Chain-Ladder method.

For Contents:

- A Chain-Ladder (CL) method is used to project the ultimate number of claims for each loss type. This involves deriving chain ladder factors from the experience and then applying the selected factors to the undeveloped accident periods.
- An average incurred amount per claim is also projected for each loss type. This involves deriving chain ladder factors for the development of the cumulative average incurred amount per claim from the experience provided for each event.
- The ultimate claims cost for each event is determined by multiplying the projected ultimate claim numbers by the ultimate average incurred claim size. Payments to date are deducted to produce the gross current value EQ liability.

For Temporary Accommodation, the ultimate number of claims is linked to our projection of Over Cap claims. The average incurred amount per claim and ultimate claims costs then follow the same methodology as for Contents.

For Motor, Farm and Boat we note that the liability to SRES has now been fully settled and we no longer value any SRES liability from these areas.

2.2 Supporting Information

Figure 2.1 lists the various sources of information used for the valuation. As our roadmap indicates, there are a number of quite complex elements to be considered and put together to arrive at a coherent valuation result.

2.3 Control Processes and Review

Our valuation and this report have been subject to Technical and Peer Review as part of Finity's standard internal control process:

- Technical review focuses on the technical work involved in the project. The technical reviewer reviews the data, models, calculations and results, and also reviews our written advice from a technical perspective.
- Peer review is the professional review of a piece of work. The peer reviewer reviews the approach, assumptions and judgments, results and advice.

We have conducted, where possible, a range of cross-reference checks and reconciliations to assess the suitability of various components of the data. This process has been aided by the availability in a number of cases of the same (or similar) data elements from different sources. In most of the areas critical to our analyses, we are satisfied with the results of these reconciliations and cross-checks.

3 Over Caps

Over Cap claims can be considered in three groups, with each group subject to a different cost projection process:

1. Over Caps reported on or before 30 September 2016, where SRES and Arrow are managing the settlement process
2. Over Caps reported on or before 30 September 2016, where another insurer and PMO are managing the settlement process (multi-unit blocks where another insurer is taking lead)
3. Over Caps reported on or after 1 October 2016 (including IBNR Over Caps)

The segregation based on reporting date recognises the differing nature of the two groups of Over Caps. Around October last year, a Joint Accelerated Review Team (JART) was formed. The JART includes representatives from each of the major insurers, as well as the EQC. The JART was formed to deal with the unresolved and disputed properties being managed by the EQC, which had been a source of new Over Caps, in order to establish greater clarity around the status and ownership (between the insurer and EQC) of each claim.

3.1 Pre 1 October 2016 Over Caps (SRES Managed)

3.1.1 Approach to estimating ultimate cost

The majority of Over Caps reported prior to 1 October 2016 have had detailed damage assessments completed, and therefore have case estimates based on these assessments (i.e. the Arrow DRAs). Our valuation approach is to:

- Use the Arrow DRA as a starting point
- Apply a loading to the DRAs to project the ultimate cost of each property
- The loading varies according to a number of factors, such as
 - ▶ DRA age – how long ago the DRA was completed
 - ▶ Extent of damage – whether the property needs to be repaired or rebuilt
 - ▶ How far through the settlement process the property has reached, for example
 - ▶ Initial assessment only
 - ▶ Detailed Design work and engineering completed and incorporated into DRA
 - ▶ Builders' contract signed and/or customer agreed cash settlement basis, etc.
 - ▶ Complexity arising from customer disputes, dealing with vulnerable customers or litigation
- Where no DRA has been completed, we assume an average ultimate claim size based on the overall average ultimate cost of properties with a similar profile (i.e. whether it's a Repair or a Rebuild, and the land zone in which the property falls)

A separate allowance is also made for "additional payments" that may be made sometime after construction is completed or the cash settlement payment made. These additional payments include items such as:

- ▶ Payments relating to comeback clauses

- ▶ Demolition costs on cash settlements, which are only paid at the time that customer shows proof of demolition costs being incurred
- ▶ Contract works insurance
- ▶ Partial cash settlements for driveways, fences, variations etc.

Additional payments are assumed to emerge within 18 months of construction completion, or the cash settlement being paid. Once the 18 month period has elapsed, the property is deemed to be “closed” and we assume there are no outstanding payments attributable to the property. Testing shows that there is an immaterial amount of payments made on properties deemed to be closed.

3.1.2 Projected ultimate costs for Open properties

Properties without a DRA

A small number of properties (around 60) have not yet had a DRA completed and therefore no DRA estimate exists, nor is it known if the property will be a Repair or a Rebuild. For these properties, we have assumed a 30/70 split between Rebuilds and Repairs, which is in line with the mix of initial DRAs completed in the last twelve months.

Repairs

9(2)(b)(ii) and 9(2)(j)



Figure 3.1 – Repairs Completed Value vs Initial and 12-month prior DRA



The table below summarises this experience by calendar year.

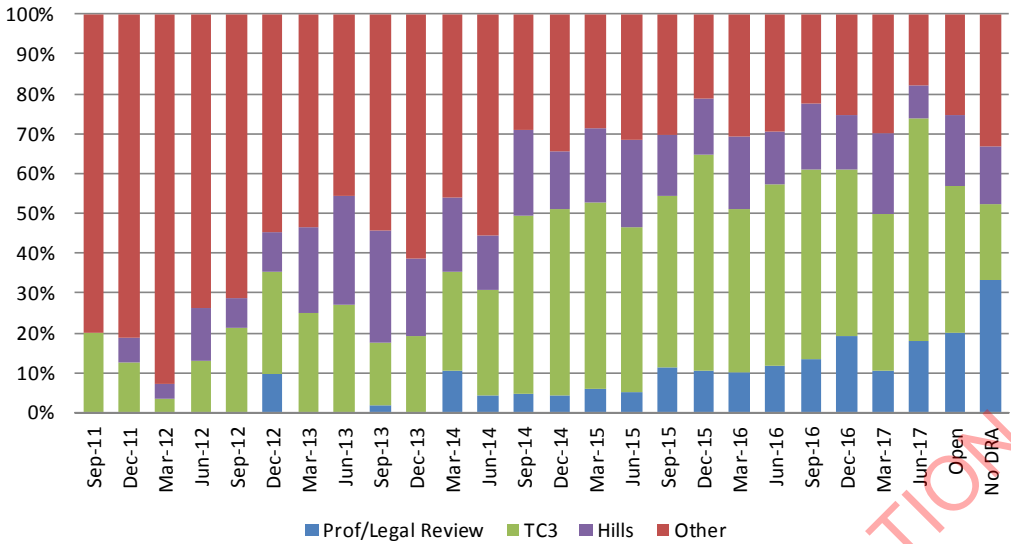
9(2)(b)(ii) and 9(2)(j)

Table 3.1 – Repairs Initial DRA vs Completed Value (by Calendar Year)

Completed Year	No of Properties	Initial DRA	Completed Cost	% Loading Completed vs Initial
2011	21			
2012	110			
2013	175			
2014	457			
2015	513			
2016	654			
2017H1	201			
Outstanding	548			
No DRA	42			

The dollar value as well as the ratio of the completed cost, compared to the initial and the twelve month prior DRA value, has increased consistently over time. This experience reflects the growing complexity of the claims being settled over time, and the higher cost associated with settling these more complex claims. The figure below shows the mix of Repairs completed over time, as well as the mix for Open properties.

Figure 3.2 – Mix of completed Repairs by Completion Quarter



It can be seen that as the settlement has progressed, there is a growing proportion of properties from the more complex TC3 land zone, as well as properties that are subject to professional or legal review. The loading adopted for outstanding properties is higher than the historic experience, but is in line with the increasing trend observed. More specifically, the higher loading reflects:

- Generally, a higher level of complexity associated with these properties
- A recognition of the additional costs that are incurred in resolving properties that have become subject to professional and legal review due to more serious disagreements with the customer regarding the scope (both due to added scope, and the greater level of professional fees that are incurred through the review and resolution process, which are not factored in to the DRA estimates)
- An allowance for a proportion of currently undisputed claims to be subject to professional and legal review in future
- A higher likelihood of scope related increases being incurred before the settlement basis can be agreed (including Repairs turning into Rebuilds in some cases).

Rebuilds

9(2)(b)(ii) and 9(2)(j)

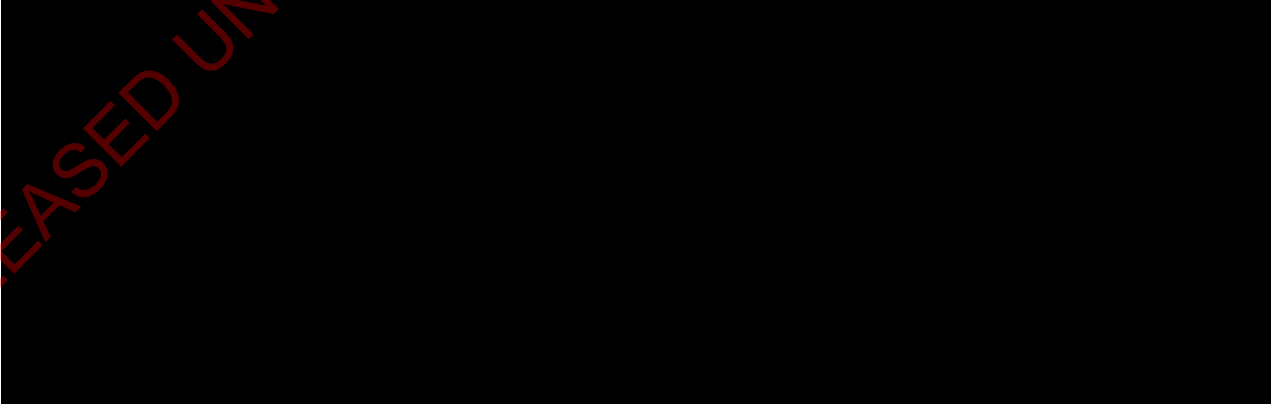


Figure 3.3 – Rebuilds Completed Value vs Initial and 12-month prior DRA



The table below summarises this experience by calendar year.

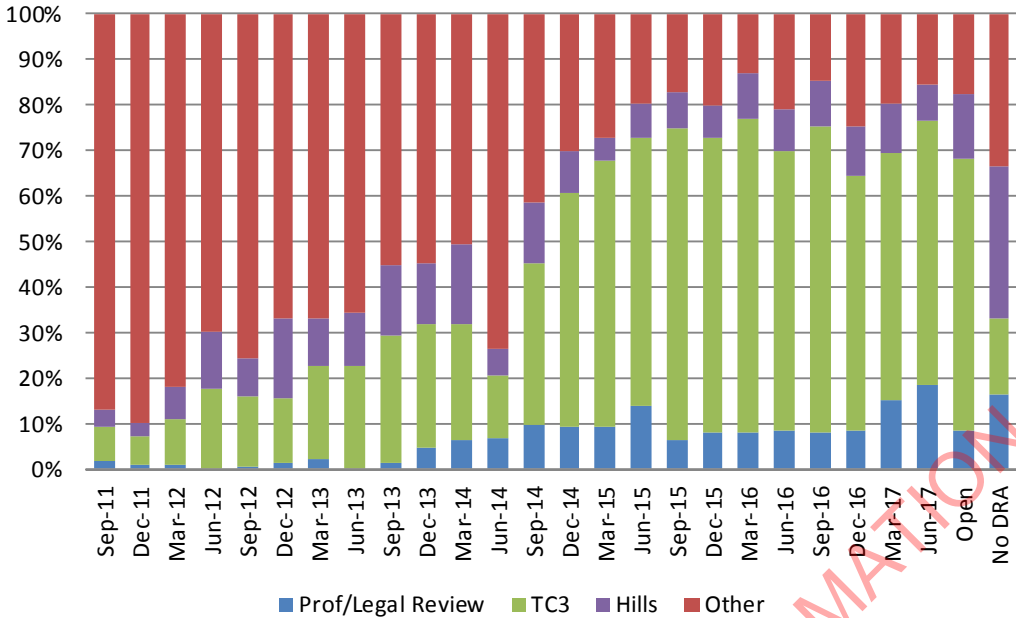
9(2)(b)(ii) and 9(2)(j)

Table 3.2 – Rebuilds Initial DRA vs Completed Value (by Calendar Year)

Completed Year	No of Properties	Initial DRA	Completed Cost	% Loading Completed vs Initial
2011	471			
2012	1,214			
2013	585			
2014	711			
2015	735			
2016	825			
2017H1	222			
Outstanding	364			
No DRA	18			

As with the Repairs, the dollar value as well as the ratio of the completed cost, compared to the initial and the twelve month prior DRA value, has increased consistently over time. Again, this experience simply reflects the growing complexity of the claims being settled over time. The figure below shows the mix of Rebuilds completed over time, as well as the mix for Open properties.

Figure 3.4 – Mix of completed Rebuilds by Completion Quarter



As with Repairs, we have assumed the observed trend will continue and that the ratio of completed cost versus initial DRA value will be higher for the remaining Open properties.

3.1.3 Loading for “additional payments” applied to completed values

Once the construction or cash settlement has been completed, additional payments can still be recorded against a property for some time. For any properties that reached completion¹ within the latest eighteen months, we make an explicit allowance for these additional payments. For properties that that have been completed for more than eighteen months, we assume no further payments will be made.

The figures below show, by completion quarter, the level of additional payments incurred to date, as a proportion of the completed value, as well as the assumed ultimate level of additional payments. We make separate assumptions for each of Repairs and Rebuilds. For Repairs the observed additional payment experience appears to vary depending on whether the property is Cash Settled or a Managed Repair. Therefore, we have made separate assumptions for properties that are Cash Settled versus Arrow Managed Repairs.

Given SRES’ intention to cash settle those customers that who have not elected an Arrow Managed construction by 30 June, the Managed Repair additional payment loading only applies to those customers that have already joined the construction queue. All other Open properties receive the Cash Settled Repair Loading.

¹ Completion is defined as either construction being completed or the cash settlement being paid out.



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Figure 3.5 – Additional Payments by Completion Quarter – Rebuilds 9(2)(b)(ii) and 9(2)(j)



3.2 Pre 1 October 2016 Over Caps (Other PMO Managed)

3.2.1 Emergence of Cost

Costs on properties managed by other PMOs emerge differently to those managed by SRES. We generally do not have valid assessment data for these properties, and rely on the payments made to the other insurers. Generally, SRES makes a major payment to the PMO managing the property at the time of contract signing. This is followed by a number of variation payments made in order to reimburse the other PMO for any contract variations that emerge during the construction process. Variation payments tend to be paid in the 12 months after completion, although payment requests tend to be received fairly sporadically, and practices vary from insurer to insurer.

3.2.2 Average Completed Sizes

9(2)(b)(ii)

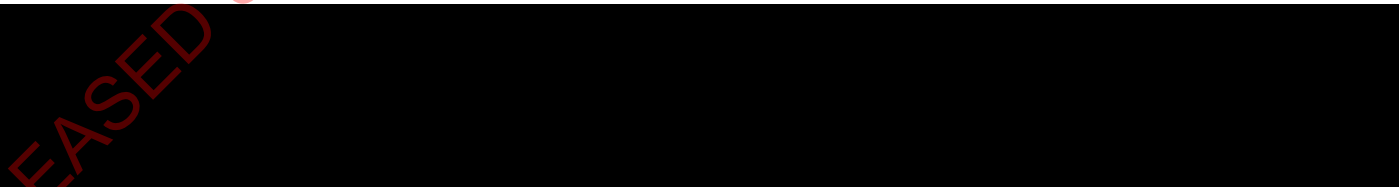


Figure 3.6 – Completed Sizes of Other PMO Properties

9(2)(b)(ii)



3.2.3 Variation Payments

9(2)(b)(ii)



9(2)(b)(ii)



The ultimate average sizes on properties managed by other PMOs (completed sizes plus variation payments) are shown in Table 3.3 below.

9(2)(b)(ii)

3.3 Post 1 October 2016 Over Caps

New Over Cap claim reports continued throughout the 2017 financial year (there were 240 Over Cap claim reports between June 2016 and May 2017), prompting the initiation of the JART process in the second half of 2016. Since around October 2016, SRES has been working with the EQC, through the JART process, to identify unresolved EQC properties that are likely to turn Over Cap so that SRES can take carriage of the resolution of these properties.

The majority of these properties have not had detailed damage assessments completed yet, and therefore there are no DRA values available for them. For the purposes of the valuation, we have treated all Over Caps reported after 1 October 2016 (including future Over Caps) as a separate group which is likely to have a different cost profile to Over Cap claims recorded prior to this date.

3.3.1 Future Over Cap Numbers

Around 200 new Over Caps have emerged since 1 October 2016. In the past, SRES has had no visibility as to the emergence of these claims until it was notified by the EQC of their Over Cap status. We understand that reopened properties with unresolved issues are the primary source of the new Over Caps, and it is the EQC's reassessment and resolution of these properties that triggers a new Over Cap claim being identified.

In order to gain greater clarity around the status of SRES insured, unresolved EQC properties, SRES staff have undertaken a detailed review of around 2,400 SRES insured Under Cap properties that have been identified by the EQC as having some unresolved issue. Of these, SRES has been able to confirm the status of around 2,250, with more information required for the remaining 150. Around 8% of the 2,250 (or 172 properties) were identified as being Over Caps.

There were approximately another 1,000 'known' unresolved properties that SRES had not been reviewed by the time our valuation was being prepared. We assume that 8% of these will also be Over Cap.

Furthermore, the unresolved EQC properties list is not static. Since October last year, when the EQC first supplied a list of around 2,500 unresolved properties, another 3,800 unresolved properties have emerged as a result of reopened EQC claims. This equates to a flow rate of around 500-600 per month. At this stage it remains unclear how long this flow of EQC reopenings will continue. For the purposes of the valuation, we have assumed that this flow will continue through calendar year 2017, and that 8% of these will also emerge as Over Cap.

The table below sets out the projected ultimate Over Caps expected to emerge from this process.

Table 3.4 – Projection of Future Over Cap Numbers

	Unresolved Properties	Over Cap	Comment
Reported as Over Cap since 1 October 2016		151	Outside of JART list
Reviewed and confirmed	2,236	172	Based on desktop review
Outstanding			
Not yet reviewed or confirmed	1,130	87	Assumed 8% Over Cap
Future EQC reopenings	3,000	231	Assumed 8% Over Cap
Total 'New' Over Caps		641	
Less reported to date		201	
No of IBNR Over Caps		440	

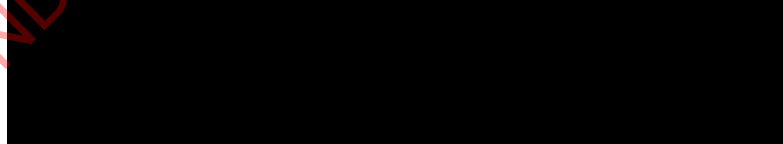
Therefore, we expect 641 “post 1 October 2016” Over Caps in total. This breaks down as follows:

- 323 have been identified as Over Cap either through the JART desktop review process, or through EQC actions prior to that
- 87 more are assumed to emerge from the 1,130 JART properties that have not yet been reviewed or had their status confirmed
- 231 more are assumed to emerge from future EQC reopening of claims.

3.3.2 Sizes of the New Over Caps

Over Caps emerging from the JART process have varying levels of damage and associated complexity, but generally appear to have incurred less damage than the Over Caps reported prior to 1 October 2016. Very few of the ‘new’ properties have had a full DRA to date. We have analysed the average sizes of the properties that have had detailed assessments, and compared them to the initial DRA sizes of the properties that are closest in proximity. For every property, we have taken the average initial assessment size of the 5 nearest properties, and compared this to the result of the initial assessment for the new Over Cap. The results of this analysis are in Table 3.5.

Table 3.5 – Average Sizes of ‘New’ DRAs Compared to Existing



9(2)(i) and 9(2)(j)

This experience suggests that the new Over Caps tend to be less damaged than the surrounding existing Over Cap properties. Therefore, we have also adopted a lower ultimate size for the new Over Caps.

The table below shows the ultimate size adopted for new Over Caps compared to overall average ultimate size for pre 1 October 2016 Over Caps, excluding the Red Zone properties (which were subject to a different settlement process).

Table 3.6 – Adopted Ultimate Size – new Over Caps versus pre 1 October Over Caps

	Rebuild		Repair	
	No Properties			
Pre 1 Oct 2016 Over Caps	3,315			
Post 1 Oct 2016 Over Caps	175			
Difference in Size				

9(2)(i) and 9(2)(j)

3.3.3 Ultimate Number of Over Cap Properties

The projected number of ultimate Over Cap properties has increased since June 2016. Figure 3.8 shows:

- The number of properties currently known to have Over Cap damage.
- Our projections of the future progression of the reported number of Over Cap properties.
- A comparison to our projected ultimate number at June 2016.

For simplicity, we have assumed that IBNR Over Caps will emerge over the course of the rest of calendar year 2017.

Figure 3.8 – All Over Cap Properties

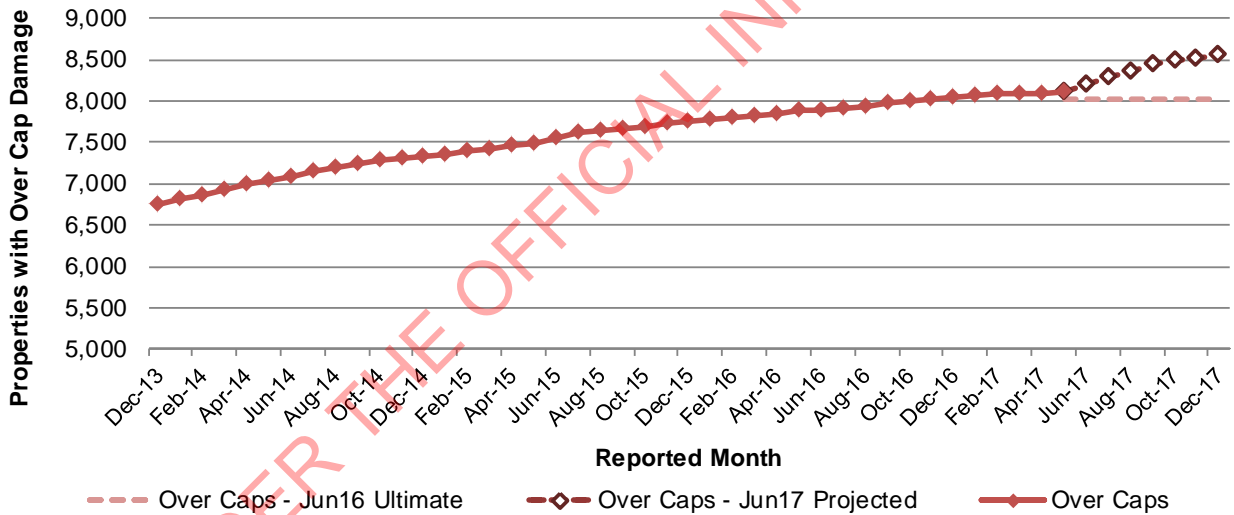


Table 3.7 shows the projected ultimate number of Over Cap properties and the change since June 2016.

Table 3.7 – Projected Ultimate Over Cap Properties

Over Cap Claims	Jun-16	Jun-17	Movt from Jun-16
Over Cap			
Overcaps Recorded Currently	7,923	8,122	199
Future additions	142	440	298
Ultimate No with Over cap damage	8,021	8,562	541

3.4 Future Escalation

Adjustments made to the DRA values vary according to DRA age, and the adjustments adopted are based upon an analysis of increases observed in the past based on nominal dollar values. As such, the adjustments made to the current DRA values implicitly include an allowance for future escalation (at a rate broadly in line with the historic average). Therefore we make no further explicit allowance for future escalation.

3.5 Summary of Projected Over Cap Claim Costs

The table below summarises the resulting projected claims costs, as well as the outstanding amounts. We also show the current values recorded in the system, where DRAs exist, as well as the additional allowance above those DRA estimates. This allowance reflects both a projected estimate for properties where a DRA does not yet exist (and therefore no estimate is recorded), as well as our IBNER allowance above the current DRA values where a DRA exists.

Table 3.8 – Summary of Over Cap Claim Costs

Current Status/Stream	Closed	Completed	Open				Post 1-Oct 16 Over Caps				Total	
	Total	Total	Rebuild	Repair	Other	PMO	Total	Completed	Open	IBNR		Total
No of Properties 9(2)(i)	4,837	2,057	372	589	66	1,027		21	180	440	641	8,562
Cost \$M (Gross EQC)												
Current Cost												
Future Development												
Projected Cost (ex add)												
Additional Payments												
Ultimate Cost (Gross EQC)												
Paid to Date (Gross EQC)												
Amount O/S (Gross EQC Contrib)												

3.6 EQC Contributions and Event Apportionment

Up until August 2014, SRES went through a process of agreeing apportionment (the process is referred to as “endorsement”), and therefore EQC contributions with the EQC. In an effort to speed up the settlement process of the outstanding claims, SRES now accepts the apportionment put forward by the EQC unless there is an obvious inconsistency. We use the apportionment data to allocate cost at a property level.

Previously, data on EQC contributions was not specifically recorded in SRES systems. We estimated contributions using recovery data, the endorsement information and data directly from the EQC. SRES has recently begun populating historical and current data regarding the EQC contributions. This removes a layer of estimation we previously had to apply to assess EQC contributions, particularly for cash settled properties.

We also use now this information as an input to cost apportionment calculations. Where a property has an EQC contribution for an event that exceeds its gross cost apportionment, the apportionment is adjusted to allow for this. Therefore cost apportionment between events takes into account both EQC contribution information and the information to calculate the final apportionment.

3.6.1 Apportionment Across Events

The figure below shows the event apportionment for all properties with valid apportionment and contribution data, as well as our projected apportionment for properties without valid data. For properties without valid data, we use the experience reported to date as the basis for projection of the ultimate apportionment of Over Cap claims across events and explicitly allow for any difference in mix.



Figure 3.9 – Apportionment of Cost Across Events (by Year Completed and Current Phase)



There has been a reduction in our apportionment to the September event and an increase in our apportionment to the other events given the recent experience and the profile of newly reported Over Cap properties. As both major events, September and February are well over their reinsurance limits, it is only the small increase in the minor events that has an impact on reinsurance recoveries and hence on SRES' net liability.

3.6.2 EQC Contributions

EQC contributions are taken from four data sources, where available (in hierarchical order):

- EQC contributions recorded in SRES' data
- Actual recoveries adjusted for uninsured works
- The agreed EQC contribution coming out of the endorsement process
- The EQC contribution recorded directly in EQC's database for properties that haven't been endorsed.

The endorsed data and EQC data are adjusted for any historical differences between these sources and the recently populated contribution data. For those properties without valid data from any of these sources, we assume the EQC contribution will be the same as average contribution size recorded to date, allowing for differences by property type. Due to the varying observed sizes, we project EQC contributions separately for each of Repairs, Group Home Builds, Non-Group Home Builds, Multi-units and Indemnity policies. The average sizes and total EQC contribution are shown in Table 3.9.

Table 3.9 – Average EQC Contributions

Property Type	No of Properties	Average EQC Contribution (\$)	Total EQC Contribution (\$m)
Repair	2,789	120,000	335.3
Group Home Build	4,159	123,000	510.3
Non Group Home Build	439	133,000	58.4
Multi Repair	361	107,000	38.7
Multi Rebuild	544	108,000	58.6
Indemnities	270	117,000	31.7
Total	8,562	121,000	1,033.0

The resulting EQC contribution is around \$121,000 per property. This is lower than the projected EQC contribution at June 2016 of \$124,000. The reduction in the assumed average size reflects three underlying drivers.

Firstly, EQC contributions were not explicitly recorded for cash settled properties, and we could only identify the net of EQC settlement amounts. For the purposes of projecting a gross of EQC liability, our figures included an assumed average EQC contribution for cash settled properties based on the amounts recorded against Arrow managed properties. During the year the EQC contributions for cash settled properties became directly identifiable so we were able to replace our estimates with actuals. The actual EQC contribution for cash settled properties was lower than we had assumed.

This issue reduced the average ultimate EQC contribution, across all properties, by around \$1,000. However, this has no impact on the net of EQC liability as the net of EQC cash settlement amount is not impacted (the gross of EQC estimate reduced in line with the reduction in the average EQC contribution).

The second factor contributing to the decrease was that whilst at June 2016, contributions were calculated using an average size by project stream (Rebuild, Repair, Multi Unit and Cash Settlement), the cash settlement projections were not adjusted for differences in past and future mix between Rebuild and Repair. This resulted in an overestimation of future EQC contributions for open properties expected to cash settle (estimated EQC contribution of \$126,000 per property), as Repairs have a lower contribution (\$121,000 per property) and made up a greater proportion of open properties than closed ones. This also reduced the average ultimate EQC contribution by around \$1,000 per property.

Finally, the projected EQC contribution for Multi-units reduced from \$113,000 per property to \$107,000. This simply reflects the more mature information we now have about these properties, as the volume of Multi settlements ramped up during the year and the EQC contributions for these have been lower than anticipated. This also reduced the average ultimate EQC contribution by around \$1,000 per property.

4 Other Covers

4.1 Out of Scope Claims

4.1.1 Out of Scope Liability

Out of Scope claims are close to being finalised with the vast majority of constructions and settlements having been completed. In total there are around 22,000 claims of which around 200 claims remain open. Over the last year, very few new OOS claims have been reported (<100). These late claim reports have mostly arisen as a result of Under Cap customers not being aware that the EQC was not responsible for driveways, paths and fences. In these circumstances, the claimants have lodged an OOS claim with SRES once the EQC has settled the house claim with the customer.

We understand that the EQC has now been through all Under Caps at least once (notwithstanding the issue of claim reopenings). Therefore, we do not expect any more OOS claims to be reported in future. The table below sets out the current status of the projected ultimate number of properties with OOS only damage.

Table 4.1 - Assessment Status of OOS claims

OOS Claim Status	Total
Closed	21,370
Open	196
Withdrawn	566
Total	22,132

As there are very few open OOS claims, we have simply adopted an overall average ultimate size and applied it to all 196 claims to determine the ultimate claims cost. The average ultimate size adopted for open claims considers amount paid to date, as well as the average size of recently finalised claims (which have been running at around \$35k per property). The table below summarises the current paid to date, ultimate cost, and outstanding liability for OOS claims.

Table 4.2 – OOS Ultimate Claims Cost

OOS Claim Status	Properties	Paid to Date (\$m)	Ultimate Cost (\$m)	Outstanding (\$m)	Average Paid to Date (\$)	Selected Average Size (\$)
Closed	21,370	341.4	341.4	0.0		
Open	196	5.3	7.8	2.6		
Withdrawn	566	0.9	0.9	0.0		
Ultimate Claims Cost (inc Arrow Costs)	22,132	347.6	350.1	2.6		
Less Arrow Costs						
Ultimate Claims Cost (excl Arrow Costs)						

The total OOS ultimate claims cost is [REDACTED] m, excluding the Arrow OOS claims management costs of [REDACTED] m. 9(2)(i) 9(2)(i), 9(2)(j) and 9(2)(b)(ii)
9(2)(b)(ii)

4.1.2 Out of Scope Event Apportionment

We have relied on the payments made in IVIIS for apportioning the claim costs against the earthquake events. We assume that apportionment for unassessed properties for each land zone will be in line with the observed apportionment to date.

Figure 4.1 below compares the results of the apportionment process to the previous valuation's apportionment of OOS claims costs.

Figure 4.1 – OOS Apportionment Overall

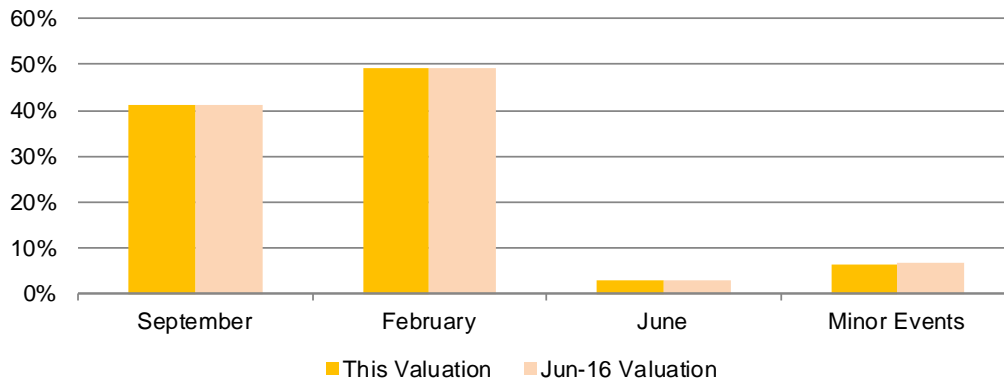


Table 4.3 summarises the outstanding claims cost apportioned by event.

Table 4.3 – OOS Ultimate Claims Cost by Event

	Sep-10	Dec-10	Feb-11	Jun-11	Dec-11	Minor Events	All
No of Claims							
Closed / Withdrawn	10,174	748	14,966	1,274	925	337	28,424
Open	90	26	568	193	67	26	970
Ultimate	10,264	774	15,534	1,467	992	363	29,394
Total Cost (\$m)							
Closed / Withdrawn	141.3	9.9	168.2	10.6	8.7	3.7	342.3
Open	3.2	0.2	3.9	0.2	0.2	0.1	7.8
Ultimate	144.5	10.1	172.0	10.8	8.8	3.7	350.1

4.2 Temporary Accommodation

4.2.1 Approach

The cost of temporary accommodation is covered for up to 12 months and is subject to a maximum of 25% of contents sum insured (noting that SRES has agreement from reinsurers to extend the period to 12 months from the 6 months specified in its policy wording).

The valuation approach is unchanged from last year. We have categorised the claims as arising from either one of the following claim types:

- Over Cap,
- Under Cap (a property with OOS damage only or EQC liability only), or
- Contents Only claim (where the policyholder has not lodged a buildings claim to SRES or EQC).

The rationale behind this approach is that a more severely damaged property will tend to lead to longer periods of displacement for policyholders, and therefore incur more temporary accommodation cost. For Over Caps the ultimate numbers of temporary accommodation claims have been projected by using the projected number of Over Cap building claims as a starting point, and selecting a proportion of these to ultimately lodge temporary accommodation claims. For the other categories we have used a chain ladder model to project future claim lodgements. In projecting claim sizes, we have made assumptions regarding the percentage of the claimant's entitlement expected to be used.

4.2.2 Results Summary

Table 4.4 summarises the results of the experience to date and our projected ultimate cost. Details of the analysis by claim type can be found in Appendix C.

Table 4.4 – Projected Ultimate Cost of Temporary Accommodation Claims

	Over Caps	Under Caps	Contents Only	Total	Jun16 Valn
Reported Claims					
Open Claims					
Claim Numbers	188	34	51	273	1,728
To Date Average Claim Size (\$)	7,324	4,439	6,826	6,872	7,647
Ultimate Average Claim Size (\$)	17,030	8,426	16,604	15,879	12,295
Finalised Claims					
Claim Numbers	3,246	8,381	2,838	14,465	13,129
Finalised Average Claim Size (\$)	12,494	5,060	6,058	6,924	6,289
Claims to Date	3,434	8,415	2,889	14,738	14,857
Average Size	12,763	5,074	6,244	7,095	6,987
Reported to Date Total (\$m)	43.8	42.7	18.0	104.6	103.8
IBNR Claims					
Claim Numbers	220	18	23	261	437
Adopted Average Claim Size (\$)	14,400	9,000	14,300	14,018	11,267
IBNR Total (\$m)	3.2	0.2	0.3	3.7	4.9
Total					
Ultimate Claim Numbers	3,654	8,433	2,912	14,999	15,294
Ultimate Average Size	12,862	5,082	6,307	7,215	7,110
Estimated Ultimate Liability (\$m)	47.0	42.9	18.4	108.2	108.7

The volume of temporary accommodation claim lodgements during the year was less than expected, continuing the trend observed last year of a slowing down of new claim lodgements. Accordingly, we have reduced the future rate of new claim lodgement, which has led to a reduction in the ultimate number of claims.

There has been an offsetting increase in the ultimate claim size, with a higher claim size expected for open and IBNR claims. This higher size is consistent with the higher complexity noted for the remaining open Over Cap claims.

Table 4.5 shows the split of the temporary accommodation costs by event, which is calculated based on the allocation implied by payments recorded against these claims in ERT.

Table 4.5 – Projected Ultimate Cost of Temporary Accommodation Claims by Event

	Sep-10	Dec-10	Feb-11	Jun-11	Dec-11	Other Events	Total
Ultimate Claims	3,073	35	11,304	434	113	39	14,999
Ultimate Average Size (\$)	7,215	7,215	7,215	7,215	7,215	7,215	7,215
Ultimate Liability (\$m)	22.2	0.3	81.6	3.1	0.8	0.3	108.2
Paid to Date (\$m)	21.1	0.2	77.2	2.9	0.7	0.3	102.5
Outstanding Liability (\$m)	1.1	0.0	4.4	0.2	0.1	0.0	5.7
% Allocation of Ult to Event	20.5%	0.2%	75.4%	2.9%	0.8%	0.3%	

4.3 Other Cover Types

Table 4.6 shows our adopted ultimate cost for the other cover types:

Table 4.6 – Other Cover Types Ultimate Cost Summary

	Reported		Ultimate		Estimated Cost (\$m)	Paid to Date (\$m)	Outstanding (\$m)	Estimated Cost (\$m) Jun-16
	Claim Numbers	Average Size	Claim Numbers	Average Size				
Lost Rent	2,430	6,935	2,499	7,167	17.9	15.3	2.6	18.1
Contents	1,878	10,090	1,937	10,405	20.2	17.9	2.3	18.3
Vehicles	3,912	1,527	3,912	1,527	6.5	6.5	0.0	6.4
Other	155	6,567	155	6,567	1.0	1.0	0.0	1.0
Total	8,375	5,109	8,503	5,299	45.1	40.7	4.9	43.8

Overall, there has been an increase of \$1.3 million in the other claim classes since the June 2016 valuation, driven mainly by an increase in Contents average claim size.

Table 4.7 summarises the claim numbers and average sizes adopted for other classes, apportioned by event.

Table 4.7 – Other Cover Types Ultimate Cost Summary by Event

		Reported		Ultimate		Estimated Cost (\$m)	Estimated Cost (\$m) Jun-16
		Claim Numbers	Average Size	Claim Numbers	Average Size		
4 Sept 2010 Darfield	Lost Rent	416	7,427	416	7,481	3.1	3.0
	Contents	393	6,599	412	7,221	3.0	2.4
	Vehicles	1,278	992	1,278	992	1.3	1.3
	Other	91	7,429	91	7,429	0.7	0.7
	Total	2,178	3,501	2,197	3,655	8.0	7.3
22 Feb 2011 Lyttleton	Lost Rent	1,856	6,977	1,925	7,265	14.0	14.2
	Contents	1,360	11,670	1,400	11,925	16.7	15.5
	Vehicles	2,248	1,938	2,248	1,938	4.4	4.8
	Other	40	6,463	40	6,463	0.3	0.2
	Total	5,504	6,075	5,613	6,288	35.3	34.8
13 June 2011 Lyttleton	Lost Rent	124	5,520	124	5,520	0.7	0.7
	Contents	64	5,174	64	5,174	0.3	0.3
	Vehicles	194	991	194	991	0.2	0.2
	Other	11	4,026	11	4,026	0.0	0.0
	Total	393	3,186	393	3,186	1.3	1.3
Minor Events	Lost Rent	34	3,761	34	3,761	0.1	0.1
	Contents	61	2,519	61	2,519	0.2	0.1
	Vehicles	192	818	192	818	0.2	0.1
	Other	13	3,002	13	3,002	0.0	0.0
	Total	300	1,592	300	1,592	0.5	0.4
Total						45.1	43.8

4.4 Escalation

The table below summarises the escalation rates assumed for each of the other cover types.

Table 4.8 – Summary of Escalation Assumptions

Claim Type	Effective Rate (% pa)	
	Jun-17	Jun-16
Out of Scope	0.0%	3.0%
Lost Rent	3.0%	3.0%
Contents	3.0%	3.0%
Vehicles	3.0%	3.0%
Temporary Accommodation	0.0%	0.0%

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5 Other Factors

5.1 Claims Handling and Project Management Expenses

We have assumed claims handling and project management expenses to be in line with SRES' forecast of these expenses. The table below sets out the expenses paid to date and the forecasts of future expenses, both at this valuation as well as at June 2016.

Table 5.1 – Forecast Claims Handling and Project Management Expense

	Jun-17 (\$m)	Jun-16 (\$m)
Claims Handling Expenses		
Paid to Date		
Future		
FY17		
FY18		
FY19		
Ultimate		
Project Management Costs		
Paid to Date		
Future		
FY17		
FY18		
FY19		
Ultimate		

9(2)(i) and 9(2)(b)(ii)

The increase in the ultimate expected claims handling and project management expenses reflects the increased ultimate number of Over Cap claims that SRES and Arrow must handle. These additional claims also lead to a small extension of the operational timeline, which impacts the length of time for which overheads are incurred. SRES' expense projection assumes that there will be a small number of claims left outstanding at the end of FY19, and makes a bulk allowance for the management of these claims to settlement.

For the purpose of the valuation we have assumed that the claims handling expenses will not be claimable from reinsurers, noting that the September and February events are over the limit of cover anyway. The project management costs are treated as being part of the claims cost. For the purpose of the valuation we have assumed that all of the project management expenses will be claimable from reinsurers up to the limit of cover.

5.2 Legal Costs

In previous valuations, we have included an allowance for legal costs to be incurred based on projections prepared by SRES (similar to the CHE allowance included in the provision). For this valuation, we have prepared an independent projection of the legal costs expected to be incurred by SRES in settling disputed claims. In forming our projections, we have considered the average legal costs incurred for recently settled claims subject to some legal action, and assumed a similar cost will be incurred for open claims that are the subject of some legal action. We have also made an allowance for the additional legal costs expected to be incurred as a result of claims that will become the subject of some dispute in the future.

[REDACTED] 9(2)(i)

Table 5.2 – Forecast Legal Costs

	Jun-17 (\$m)	Jun-16 (\$m)
Legal Costs		
Paid to Date		
Future		
FY17		
FY18		
FY19		
Ultimate		

9(2)(i)

9(2)(i)

5.3 Reinsurance Recoveries

Table 5.3 sets out the flow of reinsurance recoveries implied by our valuation. As noted above, we have assumed that no claims handling expenses will be recoverable under SRES' reinsurance contracts.

Table 5.3 – Reinsurance Cashflows (Inflated and Undiscounted)

	Payment Year							FY18	FY19	FY20
	FY11	FY12	FY13	FY14	FY15	FY16	FY17			
Major Events (\$000's)	37.8	330.5	269.7	358.1	138.8	113.0	9.9	15.1	8.9	1.2
Minor Events (\$000's)	0.0	0.0	0.0	0.0	1.8	2.7	1.6	1.0	0.6	0.1
Total (\$000's)	37.8	330.5	269.7	358.1	140.7	115.7	11.5	16.1	9.5	1.3

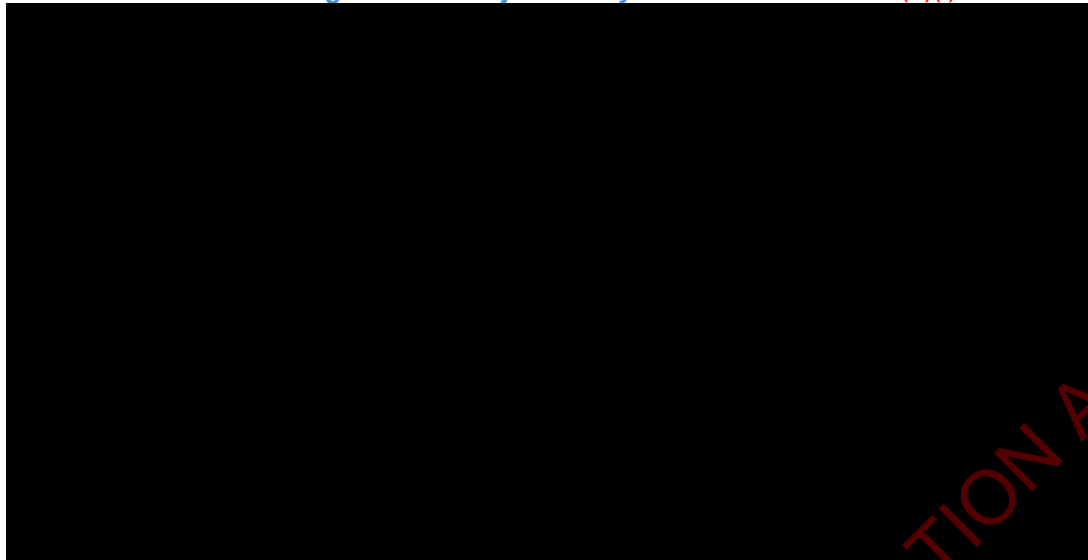
Furthermore, we have assumed that there will be no failures among the reinsurers participating on SRES' contracts and hence that the full cover under these contracts will be received. Assumed reinsurance recoveries have increased since June 2016 by around \$30 million. This is due to an increase in the allocation of cost towards the minor events and the June 2011 event, which have not yet reached the reinsurance recoverable limit.

It should be noted that our valuation produces a present value of those reinsurance recoveries which relate to claim payments made after 30 June 2017. To the extent that the recoveries actually received by SRES to 30 June 2017 are different to those receivable against claim payments already made, then appropriate compensating entries need to appear in SRES' balance sheet.

5.4 Payment Pattern

Our projected payment pattern takes into account SRES' internal project management projections, as well as our own projections of settlements. Settlement projections are based on historical experience, adjusted to allow for the fact that almost all properties will be cash settled moving forward. Figure 5.1 shows the projected payment pattern. The payment pattern is broadly similar to that adopted at June 2016 although the absolute level of payments is higher and payments now continue for another six months, which mostly reflects the additional Over Caps.

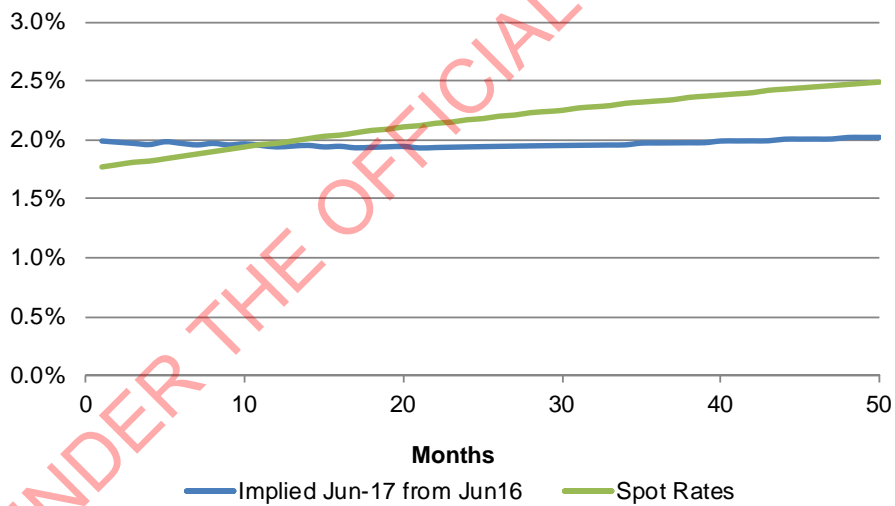
Figure 5.1 – Projected Payment Pattern 9(2)(i)



5.5 Discount Rates

For the valuation at 30 June 2017 and as with previous valuations, we have adopted the 30 June 2017 risk free zero coupon discount rates as published by New Zealand Treasury. Figure 5.2 shows the movement in the yield curve from 30 June 2016 to 30 June 2017.

Figure 5.2 – New Zealand Treasury Zero Coupon Yield Curve



Compared to June 2016, there has been a downwards shift of the yield curve for terms up to 10 months, and an upwards shift of the yield curve for all subsequent terms.

The single effective discount rate and discounted mean term at each of the dates are shown in Table 5.4.

Table 5.4 – Single Effective Discount Rate and Discounted Mean Term (DMT)

	Gross		Net	
	Disc Rate	DMT (years)	Disc Rate	DMT (years)
30 June 2016	2.1%	0.9	1.9%	0.9
30 June 2017	2.1%	0.9	2.0%	0.9

6 Summary of EQ Liabilities

6.1 Projected Ultimate Costs

Table 6.1 sets out a high level summary of the financial numbers, together with a comparison to the results adopted in our 30 June 2016 valuation.

Table 6.1 – Projected Ultimate Outcome

	30 Jun 16	30 Jun 17	Mov't from Jun 16	
	\$m	\$m	\$m	
Ultimate Outflows				
Over Cap	3,210	3,603	393	
Out of Scope	338	334	-4	
Other	153	153	0	
Claims Cost (Excl PM Cost)	3,701	4,090	389	
Project Management Costs	■	■	■	9(2)(b)(ii)
SRES Claims Handling	■	■	■	9(2)(i)
Ultimate Inflows				
EQC Contributions	996	1,032	36	
Reinsurance Recoveries	1,259	1,291	31	
	2,256	2,323	67	
Gross Outflow (net EQC, ex CHE)	2,903	3,264	360	
Net Outflow (net of RI)	■	■	■	9(2)(i)
Cum. Paid Net of EQC (excl CHE)	2,228	2,690	463	
Net Liability				
Central Estimate	701	563	-138	
Risk Margin	■	■	■	9(2)(i)
Provision Required	■	■	■	

The valuation results indicate the likely ultimate cost has continued to increase over the last twelve months. The ultimate cost of claims (net of EQC, excluding CHE) has increased by \$360 million, before reinsurance, since June 2016. The increase is attributable to a number of factors –

- An increase in the number of Over Cap properties expected to emerge from the EQC settlement program (541 more properties projected to be Over Cap compared to June 2016)
- Continued deterioration in the settlement experience relative to initial DRA estimates, over and above the allowances we had made previously. This experience appears to be linked to the greater levels of complexity associated with the tail of the claims. The increased complexity and cost reflects a number of factors that we have observed:
 - ▶ More complex damage being dealt with in TC3 properties, which has given rise to greater levels of scope related increases (relative to the DRA scope) being required to settle the property (including Repairs turning into Rebuilds in some cases).
 - ▶ Additional costs that are incurred in resolving customer disputes (particularly the greater level of professional fees that are incurred through the dispute resolution process)

- ▶ An expectation that more of the outstanding claims will be the subject of some customer dispute

9(2)(b)(ii)

9(2)(i)

Project management costs and claims handling expenses have increased by [REDACTED] million and [REDACTED] million respectively. These relate mainly to refinements to forecasts, taking into account the increasing volumes of Over Caps.

6.2 'Wash Up' matters between SRES and the EQC

There are ongoing discussions between SRES and EQC around the settlement of a few areas of cost:

- EQC Contributions – EQC has settled their liability on Over Cap claims in line with their view of the expected ultimate cost of these properties. To the extent that properties have incurred costs in excess of what the EQC expected, there is an additional liability owed to SRES in respect of properties with a partial cap claim. Our analysis indicates that the potential additional contributions from the EQC could be in excess of [REDACTED] 9(2)(b)(ii)
- Protocol 1 Properties – these are properties that EQC have determined to be Over Cap after construction on these properties had commenced. To date, EQC have notified SRES of [REDACTED] 9(2)(b)(ii) [REDACTED] of Over Cap liability corresponding to Protocol 1 properties, with more being notified regularly. It is expected the final liability owed to EQC in respect of Protocol 1's could be of the order of [REDACTED] Further, there remains the risk that the rate of protocol 1 notifications increases as EQC begins to revisit a number of their repairs. Increases of scope on revisits, could lead to more properties turning Over Cap.
- Land Remediation Recoveries – EQC has indicated that they may reimburse insurers for the cost of the installation of gravel rafts as part of land remediation processes. This could lead to a total recoverable of around [REDACTED] (around 150 properties, [REDACTED]). 9(2)(b)(ii)

9(2)(b)(ii)

Given the uncertainty around the final outcome of these issues and the likely offsetting nature of these settlements, we have not adjusted our valuation basis for their potential impact (i.e. we have assumed that these various issues will be largely offsetting).

6.3 Recommended Provisions as at 30 June 2017

Table 6.2 summarises our estimates of SRES' EQ liabilities at 30 June 2017, with each of the three major events shown separately. Note that the figures in the body of the table are net of payments made to 30 June 2017. The line below the table indicates our estimate of the total amount which will ultimately be paid once all claims are settled (including payments already made). Our recommended provisions incorporate a risk margin which we believe to be consistent with the company's decision to establish provisions which incorporate at least a 75% probability of sufficiency.

Table 6.2 - Recommended EQ Provision at 30 June 2017

Provisions for Outstanding Claims as at 30 Jun 2017	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
Gross Incurred Cost in 30 Jun \$ before EQC	1,073.2	3,033.6	139.1	4,246.0	50.4	4,296.4
Expected EQC Share	-317.8	-665.0	-41.1	-1,024.0	-9.1	-1,033.0
Gross Incurred Cost in 30 Jun \$ after EQC	755.4	2,368.6	98.0	3,222.0	41.3	3,263.3
less paid to 30 Jun 2017	-675.9	-1,905.7	-72.9	-2,654.4	-36.0	-2,690.5
Gross Outstanding Claims						
In 30 Jun 2017 Values	79.5	462.9	25.2	567.6	5.3	572.8
Allowance for Future Inflation	0.1	0.2	0.0	0.3	0.0	0.3
Inflated Values	79.6	463.1	25.2	567.8	5.3	573.1
Discount to Present Value	-1.4	-8.2	-0.4	-10.0	-0.1	-10.1
OSC Discounted to 30 Jun 2017	78.2	454.9	24.7	557.8	5.2	563.0
Claims Handling						
Gross Central Estimate						
Catastrophe R/I Recoveries	0.0	0.0	-24.7	-24.7	-1.6	-26.3
Aggregate R/I Recoveries	0.0	0.0	0.0	0.0	0.0	0.0
Net Central Estimate						
Risk Margin						
Recommended provision						
Inflated Gross Central Estimate (Incl paid to date, excl CHE)	756	2,369	98	3,222	41	3,263.6
Change on 31 Mar 2017 Valuation	-76	40	6	-29	4	-25
Change on 30 Jun 2016 Valuation	-55	384	30	358	2	360

We have made a number of changes to the valuation basis since the 30 June 2016 valuation. The result of the changes is an increase of around \$360 million in our estimate of the inflated gross incurred cost when compared to the estimate at 30 June 2016.

6.4 Reconciliation with Previous Estimate at 30 June 2016

The table below compares the estimate at 30 June 2017 with our previous estimate at 30 June 2016.

Table 6.3 – Movement of Provision Net of EQC Contribution, Net of RI

	Net Provision (\$m)	
Position at 30 June 2016	812.3	
Actual Payments (includes unwind of discount and risk margins for provisions)	(559.2)	
Actual Rollforward Provision at June17 using June16 Assumptions	253.1	
<i>Changes due to:</i>		
Over Cap Claims		
Increase in Ultimate Number of Over Caps	█	9(2)(b)(ii),
Rebuild Sizes	█	9(2)(i) and
Repair Sizes	█	9(2)(j)
Properties Managed by Other Insurers	█	
EQC Contributions	█	
Other Classes		
Out of Scope	█	
Other Classes	█	
Expenses and Other Factors		
Event Apportionments	█	
Project Management Costs	█	
Legal Fees	█	
CHE	█	
Discount Rate and Payment Pattern	█	
Total	█	
Recommended Position at 30 June 2017	█	

The table shows:

9(2)(b)(ii), 9(2)(i) and 9(2)(j)

- █ million of the increase is due to the 541 additional Over Caps, compared to our projected ultimate last year, that are now expected to emerge from the EQC settlement program
- █ million of the increase is due to an increase in the projected ultimate size of Rebuilds. This reflects the experience over the year, which showed Rebuild settled sizes emerging higher than anticipated due to the greater complexities of the remaining open claims. Accordingly, we have also allowed for a continued deterioration in the ultimate sizes for Rebuilds as the remaining open properties are expected to be more complex still. The factors driving the increased sizes include:
 - ▶ In many cases more complex engineering being required for the Rebuild than anticipated in the DRAs

- ▶ Greater levels of customer disputation and litigation, which leads to higher levels of legal and professional fees being incurred
- ▶ The fact that the properties that are being settled last have a greater likelihood of missed scope than those settled earlier in the process
- [REDACTED] million of the increase is due to an increase in the projected ultimate size of Repairs. This reflects the significant deterioration observed in settled Repair sizes over the year, and an assumption that this deterioration will continue as SRES makes its way through the increasingly complex group of claims that remain open. The drivers of the increase are similar to those highlighted for the Rebuilds. However, the cost impact arising from these issues is greater for Repairs as there is generally more potential for disputes, additional scope of works being required, variations to the engineering strategy and Repair methodology, as well as a chance some Repairs turn into Rebuilds. This also acts to have a disproportionate impact upon Repairs when compared to Rebuilds.
- A [REDACTED] million increase to the cost of properties being managed by other PMOs. SRES has limited information on these properties once they are handed over and recent settlement experience for these properties has been worse than expected, and the projected sizes have been increased accordingly.
- A [REDACTED] million increase arising from lower projected EQC contributions per property. This is a result of additional EQC contribution data being captured in EMS during the year, which revealed that our previous algorithm for estimating EQC recoveries on closed properties overstated EQC contribution. Rectification of this has reduced the projected average EQC contribution per property.
- A small reduction in the cost of OOS claims (~\$5 million), which is largely a result of some OOS Only properties having moved to the Over Cap segment
- A \$2 million increase to other classes, mostly relating to additional Temporary Accommodation claims arising from the greater volume of Over Caps now expected
- [REDACTED] million in additional Claims Handling and Project Management fees, which are also mostly an outworking of the greater volume of Over Caps that will need to be handled
- [REDACTED] million in additional legal fees, which reflects the greater levels of disputation and litigation anticipated in resolving the remaining properties
- A \$5 million decrease arising from a slightly higher discount rate
- Increased allocation of costs to the June and Minor events has increased the reinsurance recoverable, which has acted to reduce the net provision by around \$25 million

6.5 Assessing Uncertainty

6.5.1 Sensitivity Testing

Table 6.4 sets out a summary of the sensitivity tests we have applied together with some commentary. The sensitivities shown focus upon the Over Cap costs. The volume of outstanding claims relating to other covers (OOS, Temporary Accommodation, Contents, etc.) is now less than \$15 million. Therefore, we have not included sensitivities for these segments, as they do not represent a material exposure.

For the purposes of the sensitivity testing we have adopted as “adverse” a movement where the ultimate cost is increased by at least \$20 million.

9(2)(i) and 9(2)(j)

Table 6.4 – Summary of Sensitivity Tests

6.5.2 Key Sources of Uncertainty in our Estimates

In March 2016, we had conducted a formal assessment of the various layers of uncertainty and risk attaching to our central estimate. In light of that assessment, we had adopted a risk margin of 14% to apply to the central estimate, intended to provide a 75% Probability of Sufficiency. This risk margin was adopted when setting the provision at 30 June 2016.

This analysis underlying the risk margin work was updated in late 2016, as part of a broader piece of work that was carried out to assess SRES' capital needs. The updated analysis confirmed that the 14% risk margin remained adequate in order to achieve the targeted 75% Probability of Sufficiency.

For this valuation, while we have not conducted a formal assessment of the risk margin, we have considered how the key areas of uncertainty highlighted last year have progressed and whether there are new any new areas contributing to the uncertainty. This assessment is summarised in the table below.

Table 6.5 – Assessment of Uncertainty – June 2016 vs June 2017

Taking these considerations into account, in our view the overall level of uncertainty surrounding the June 2017 valuation is broadly similar to the uncertainty at June 2016.

6.5.3 Adopted Risk Margin at 30 June 2017

In light of our assessment of the key areas of uncertainty and how that uncertainty has developed over the course of FY17, we are of the opinion that, while the risks attaching to individual elements may have changed, the overall level of uncertainty attaching to this valuation is broadly similar to our previous full valuation. Accordingly, we have maintained the risk margin at 14% of the estimated liability (net of EQC contributions but gross of reinsurance recoveries). The risk margin is intended to achieve a 75% Probability of Sufficiency.

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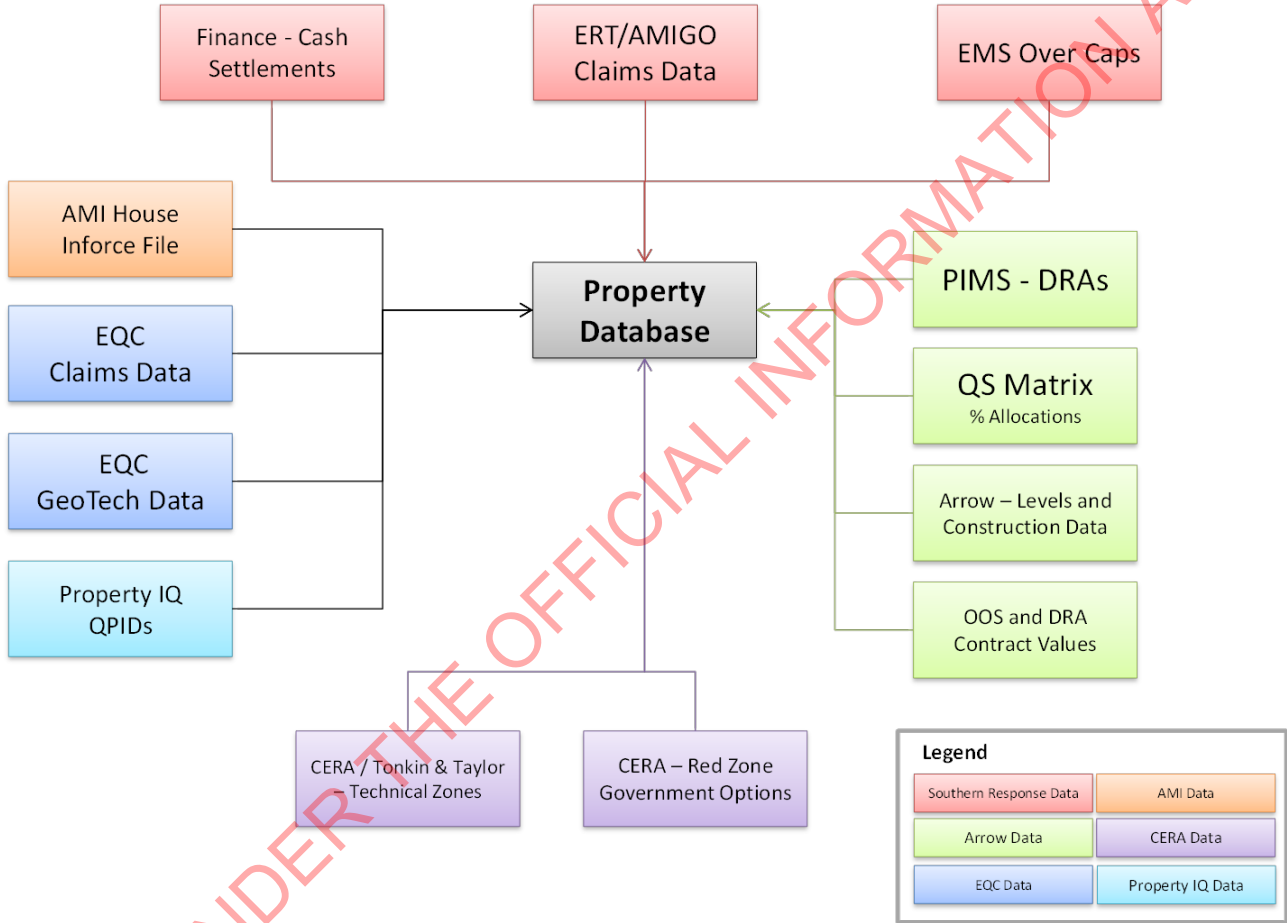
Part III Appendices

A Data

A.1 Data Sources

The flowchart below shows the data sources used to construct the property database which underpins most of where our data is for analysis in the valuation.

Figure A.1 – Property Database Data Sources



A.2 Data Reconciliation

The summaries below provide data reconciliations between the property database against the Canterbury Earthquake Report produced by the data warehouse and Arrow's PCG report.

Table A.1- Reconciliation to Canterbury Earthquake Report

	Property Database 2017-06-02	Canterbury Earthquake Report 2017-06-01	Total Difference (#'s / \$'s)	Difference (%)	Difference accounting for rejected (#'s / \$'s)	(%)
Claims	42,989	44,915	1,926	4.48%	2	0.00%
Case Estimates	2,881,997	2,890,675	8,678	0.30%	21	0.00%
Payments	2,840,106	2,847,749	7,643	0.27%	-159	-0.01%

Table A.2 – Reconciliation to Canterbury Earthquake Report – Claim Details

Property Database 2017-06-02												
Status	93	97	99	103	106	107	111	112	114	117	122	Total
Open	4,726	25	206	7	5,381	15	54	1,294	12	10	254	11,984
Closed	11,911	98	855	49	15,051	55	75	1,832	62	50	967	31,005
Withdrawn												
Entered in Error												
Declined												
Total	16,637	123	1,061	56	20,432	70	129	3,126	74	60	1,221	42,989
Canterbury Earthquake Report 2017-06-01												
Status	93	97	99	103	106	107	111	112	114	117	122	Total
Open	4,752	26	210	7	5,535	15	54	1,300	12	10	257	12,178
Closed	12,265	98	860	50	16,386	55	76	1,863	62	50	972	32,737
Withdrawn												
Entered in Error												
Declined												
Total	17,017	124	1,070	57	21,921	70	130	3,163	74	60	1,229	44,915
Difference												
Status	93	97	99	103	106	107	111	112	114	117	122	Total
Open	26	1	4	0	154	0	0	6	0	0	3	194
Closed	354	0	5	1	1,335	0	1	31	0	0	5	1,732
Withdrawn												
Entered in Error												
Declined												
Total	380	1	9	1	1,489	0	1	37	0	0	8	1,926
Rejected due to Duplicate Claims or Withdrawn/Declined												
Status	93	97	99	103	106	107	111	112	114	117	122	Total
Open	26	1	4	0	153	0	0	6	0	0	3	193
Closed	354	0	5	1	1,333	0	1	32	0	0	5	1,731
Withdrawn	906	4	37	5	637	5	8	166	7	3	78	1,856
Entered in Error	343	4	22	2	481	5	5	216	3	4	47	1,132
Declined	10	0	1	0	6	0	0	2	0	0	5	24
Total	1,639	9	69	8	2,610	10	14	422	10	7	138	4,936
Difference Accounting for Rejected												
Status	93	97	99	103	106	107	111	112	114	117	122	Total
Open	0	0	0	0	1	0	0	0	0	0	0	1
Closed	0	0	0	0	2	0	0	-1	0	0	0	1
Withdrawn												0
Entered in Error												0
Declined												0
Total	0	0	0	0	3	0	0	-1	0	0	0	2

Table A.3 - Reconciliation to Canterbury Earthquake Report – Claim Estimates Details

Property Database 2017-06-02 (\$000s)												
Status	93	97	99	103	106	107	111	112	114	117	122	Total
Open	352,245	162	7,503	22	1,292,226	575	1,875	61,012	440	259	5,603	1,721,921
Closed	379,290	1,633	12,562	507	717,341	374	857	35,272	596	345	11,299	1,160,076
Withdrawn												
Entered in Error												
Declined												
Total	731,534	1,795	20,065	529	2,009,566	949	2,732	96,283	1,036	604	16,903	2,881,997
Canterbury Earthquake Report 2017-06-01 (\$000s)												
Status	93	97	99	103	106	107	111	112	114	117	122	Total
Open	352,375	163	7,547	22	1,295,351	575	1,875	61,202	440	259	5,650	1,725,459
Closed	380,526	1,633	12,566	510	721,190	374	857	35,317	596	345	11,302	1,165,216
Withdrawn												
Entered in Error												
Declined												
Total	732,901	1,796	20,113	531	2,016,541	949	2,732	96,519	1,036	604	16,953	2,890,675
Difference												
Status	93	97	99	103	106	107	111	112	114	117	122	Total
Open	130	1	44	0	3,125	0	0	191	0	0	47	3,538
Closed	1,236	0	4	3	3,849	0	0	45	0	0	3	5,140
Withdrawn												
Entered in Error												
Declined												
Total	1,366	1	48	3	6,975	0	0	236	0	0	50	8,678
Rejected												
Status	93	97	99	103	106	107	111	112	114	117	122	Total
Open	130	1	44	0	3,125	0	0	191	0	0	47	3,538
Closed	1,236	0	4	3	3,828	0	0	45	0	0	3	5,119
Withdrawn	137	2	6	1	220	0	0	22	2	0	2	392
Entered in Error	949	0	18	0	273	0	0	54	0	0	0	1,293
Declined	16	0	1	0	21	0	0	4	0	0	5	48
Total	2,468	3	73	3	7,468	0	0	316	2	0	57	10,390
Difference Accounting for Rejected												
Status	93	97	99	103	106	107	111	112	114	117	122	Total
Open	0	0	0	0	0	0	0	0	0	0	0	0
Closed	0	0	0	0	21	0	0	0	0	0	0	21
Withdrawn												0
Entered in Error												0
Declined												0
Total	0	0	0	0	21	0	0	0	0	0	0	21

Table A.4 - Reconciliation to Canterbury Earthquake Report – Payment Details

Property Database 2017-06-02 (\$000s)												
Status	93	97	99	103	106	107	111	112	114	117	122	Total
Open	523,938	64	5,867	0	1,152,182	43	4	20,572	461	69	897	1,704,099
Closed	425,809	1,899	11,366	533	664,542	293	663	20,116	699	371	9,716	1,136,007
Withdrawn												
Entered in Error												
Declined												
Total	949,747	1,963	17,233	533	1,816,725	336	668	40,689	1,160	440	10,613	2,840,106

Canterbury Earthquake Report 2017-06-01 (\$000s)												
Status	93	97	99	103	106	107	111	112	114	117	122	Total
Open	524,030	64	5,868	0	1,153,837	43	4	20,576	461	69	914	1,705,867
Closed	427,158	1,899	11,370	533	669,030	293	663	20,147	699	371	9,718	1,141,882
Withdrawn												
Entered in Error												
Declined												
Total	951,188	1,963	17,238	533	1,822,867	336	668	40,723	1,160	440	10,633	2,847,749

Difference												
Status	93	97	99	103	106	107	111	112	114	117	122	Total
Open	92	0	1	0	1,654	0	0	3	0	0	17	1,768
Closed	1,349	0	4	0	4,488	0	0	31	0	0	3	5,875
Withdrawn												
Entered in Error												
Declined												
Total	1,441	0	6	0	6,142	0	0	34	0	0	20	7,643

Rejected												
Status	93	97	99	103	106	107	111	112	114	117	122	Total
Open	91	0	17	0	1,477	0	0	-6	0	0	17	1,595
Closed	1,445	0	4	0	4,700	0	0	55	0	0	3	6,207
Withdrawn	100	2	5	1	431	0	0	25	2	0	4	570
Entered in Error	54	-16	0	0	761	2	0	58	0	0	-23	835
Declined	17	0	1	0	3	0	0	4	0	0	5	30
Total	1,706	-14	27	1	7,372	2	0	136	2	0	6	9,237

Difference Accounting for Rejected												
Status	93	97	99	103	106	107	111	112	114	117	122	Total
Open	1	0	-15	0	177	0	0	9	0	0	0	173
Closed	-96	0	0	0	-212	0	0	-24	0	0	0	-332
Withdrawn												0
Entered in Error												0
Declined												0
Total	-95	0	-15	0	-35	0	0	-14	0	0	0	-159

Table A.5 - Reconciliation to PCG report – Completed Properties

	Property Database	PCG Report
Data Date	2-Jun-17	May17
Number of properties	[REDACTED]	[REDACTED]
Average DRA Size	[REDACTED]	[REDACTED]

9(2)(i) and 9(2)(j)

B Payments Data

Table B.1 – Gross Payments Summary By Event as at 30 Jun 2017

Summary of Payments As at 30 Jun	Cat 93 4-Sep-10 \$000s	Cat 97 19-Oct-10 \$000s	Cat 99 26-Dec-10 \$000s	Cat 103 20-Jan-11 \$000s	Cat 106 22-Feb-11 \$000s	Cat 107 16-Apr-11 \$000s	Cat 111 6-Jun-11 \$000s	Cat 112 13-Jun-11 \$000s	Cat 114 21-Jun-11 \$000s	Cat 117 9-Oct-11 \$000s	Cat 122 23-Dec-11 \$000s	Total \$000s
Gross Paid to Date (\$m)												
Rebuild	177,345	841	614	0	467,452	63	109	12,035	223	0	1,256	659,937
Repairs	61,456	100	1,175	17	230,755	18	238	6,444	-1	25	819	301,046
Cash Settled	511,063	170	9,122	15	1,412,329	126	1,362	64,003	591	94	2,871	2,001,746
Overcap Multi Units	21,432	20	175	9	95,055	17	36	2,974	117	0	189	120,025
Unallocated Arrow Costs (\$m)	2,449	10	18	0	7,159	1	4	189	2	0	21	9,854
DoA EQC Recoveries (\$m)	-35	0	0	0	-88	0	0	-31	0	0	0	-154
Net Rebuilds Paid to Date	177,900	848	615	0	468,950	63	109	12,057	223	0	1,262	662,027
Net Repairs Paid to Date	61,648	101	1,177	17	231,495	19	238	6,456	-1	25	823	301,997
Adjusted Net Cash Settled Paid to Date	512,663	172	9,137	15	1,416,857	127	1,364	64,122	592	94	2,883	2,008,025
Net Multi Unit Builds Paid to Date	21,499	20	176	10	95,360	17	36	2,980	117	0	189	120,404
Out of Scope (Net of Cancelled Cheques)	142,991	1,219	10,108	533	170,134	305	655	10,739	627	374	8,807	346,493
Out of Scope (Cancelled Cheques)	-1,878	-12	-118	-0	-2,048	-10	-8	-117	-1	-0	-83	-4,275
Lost Rent	2,886	0	59	0	12,736	3	9	644	3	0	58	16,398
Temp Accom	21,174	42	245	12	76,335	21	81	2,798	76	35	765	101,585
Contents	2,135	20	13	3	15,005	8	1	338	0	18	92	17,632
Motor	1,306	1	12	0	4,839	1	3	205	8	0	136	6,513
Other	685	1	24	0	262	0	0	44	2	0	12	1,031
Total Gross Paid to Date (\$m)	944,887	2,424	21,567	590	2,491,975	562	2,497	100,382	1,648	547	15,027	3,582,105
Less Adjustments to Cash Settlements for EQC												
Recoveries not recorded in AMIGO	-146,738	-49	-2,626	-4	-404,244	-36	-387	-18,368	-171	-27	-803	-573,453
Plus Uninsured Works Adjustment	6,592	30	26	0	17,761	2	5	461	8	0	48	24,933
Less Unallocated Costs	-2,414	-10	-18	-0	-7,072	-1	-4	-158	-2	-0	-21	-9,700
Less Farm, Boat and Motor	-1,991	-2	-36	-0	-5,101	-1	-3	-249	-10	-0	-148	-7,544
Plus Cancelled Cheques	1,878	12	118	0	2,048	10	8	117	1	0	83	4,275
Total Before Adjustments	802,214	2,405	19,030	586	2,095,367	535	2,116	82,186	1,474	520	14,185	3,020,617
Event Split Adjustments in AMIGO ¹	-185,056	394	1,451	37	141,642	168	1,358	37,495	195	26	2,290	0
Total Before Split Adjustment	987,270	2,011	17,579	549	1,953,724	367	758	44,690	1,279	494	11,895	3,020,617
Total From Canterbury Earthquake Report												
2017-07-01	987,265	2,011	17,579	549	1,953,717	367	758	44,690	1,279	494	11,895	3,020,606
Difference	5	-0	0	-0	7	-0	-0	0	0	0	0	12

¹ AMIGO system uses separate field to adjust payments to the event splits agreed with the EQC. Payments in the Canterbury Earthquake Report are before this adjustment.

Table B.2 - EQC Recoveries Summary By Event as at 30 Jun 2017

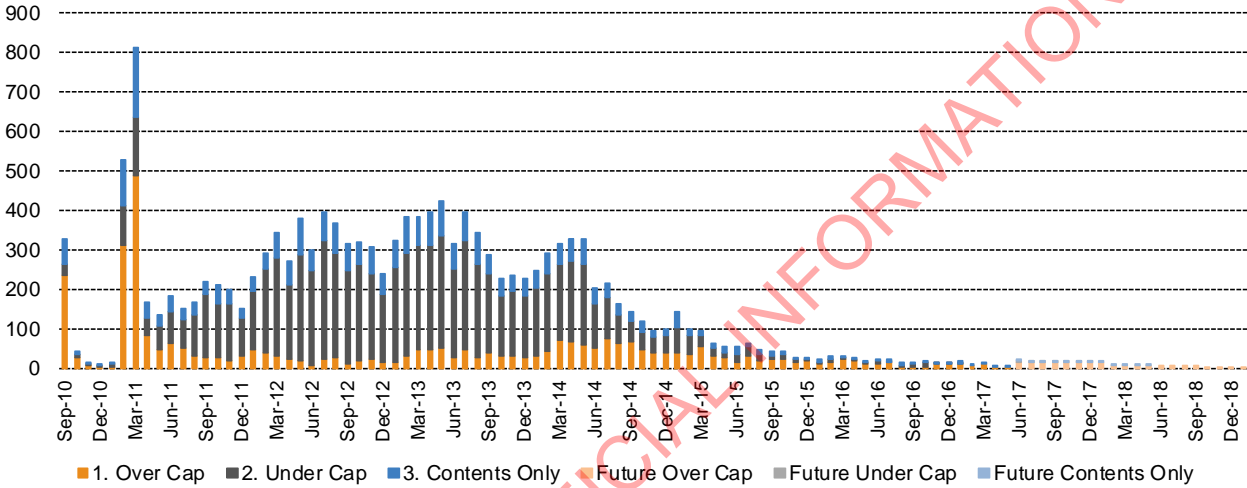
Summary of Recoveries As at 30 Jun	Cat 93 4-Sep-10 \$000s	Cat 97 19-Oct-10 \$000s	Cat 99 26-Dec-10 \$000s	Cat 103 20-Jan-11 \$000s	Cat 106 22-Feb-11 \$000s	Cat 107 16-Apr-11 \$000s	Cat 111 6-Jun-11 \$000s	Cat 112 13-Jun-11 \$000s	Cat 114 21-Jun-11 \$000s	Cat 117 9-Oct-11 \$000s	Cat 122 23-Dec-11 \$000s	Total \$000s
Recoveries to Date (\$m)												
Rebuild (EQC Recovs)	-70,659	-114	-349	0	-97,313	2	4	-1,579	8	0	-105	-170,105
Repair (EQC Recovs)	-26,090	-106	-313	0	-62,094	0	1	-948	-0	0	-99	-89,649
Adjusted Cash Settled (EQC Recovs)	-152,760	-81	-2,942	-4	-416,171	-36	-392	-19,418	-171	-27	-874	-592,877
MUBs (EQC Recovs)	-7,283	0	-103	0	-31,462	0	0	-766	-80	0	-3	-39,698
Lost Rent	204	0	-4	0	248	0	-0	41	0	0	0	489
Temp Accom	-67	0	-3	0	865	0	0	116	0	0	-23	889
Contents	-27	0	0	0	-101	0	0	-7	0	0	-1	-136
Motor	-39	0	0	0	-483	0	0	-13	0	0	-6	-540
Other	-9	0	0	0	-4	0	0	-0	0	0	0	-13
Total Recoveries to Date	-256,730	-301	-3,714	-4	-606,514	-34	-388	-22,573	-243	-27	-1,111	-891,639
Plus Adjustments to Cash Settlements for EQC Recoveries not recorded in AMIGO	146,738	49	2,626	4	404,244	36	387	18,368	171	27	803	573,453
Less Uninsured Works Adjustment	-6,592	-30	-26	-0	-17,761	-2	-5	-461	-8	-0	-48	-24,933
Plus Farm, Boat and Motor	48	0	0	0	487	0	0	13	0	0	6	553
Less Cancelled Cheques	-1,878	-12	-118	-0	-2,048	-10	-8	-117	-1	-0	-83	-4,275
Total Before Cash Settlement Adjustment	-118,414	-294	-1,232	-0	-221,593	-10	-13	-4,771	-82	-0	-432	-346,842
Total From Canterbury Earthquake Report 2015-07-04	-118,414	-294	-1,232	-0	-221,593	-10	-13	-4,771	-82	-0	-432	-346,842
Difference	0	-0	0	0	0	-0	-0	0	-0	0	-0	0

C Temporary Accommodation

C.1 Claim Lodgements

The figure below shows the temporary accommodation claim lodgements projection

Figure C.1 – Temporary Accommodation Claim Lodgements

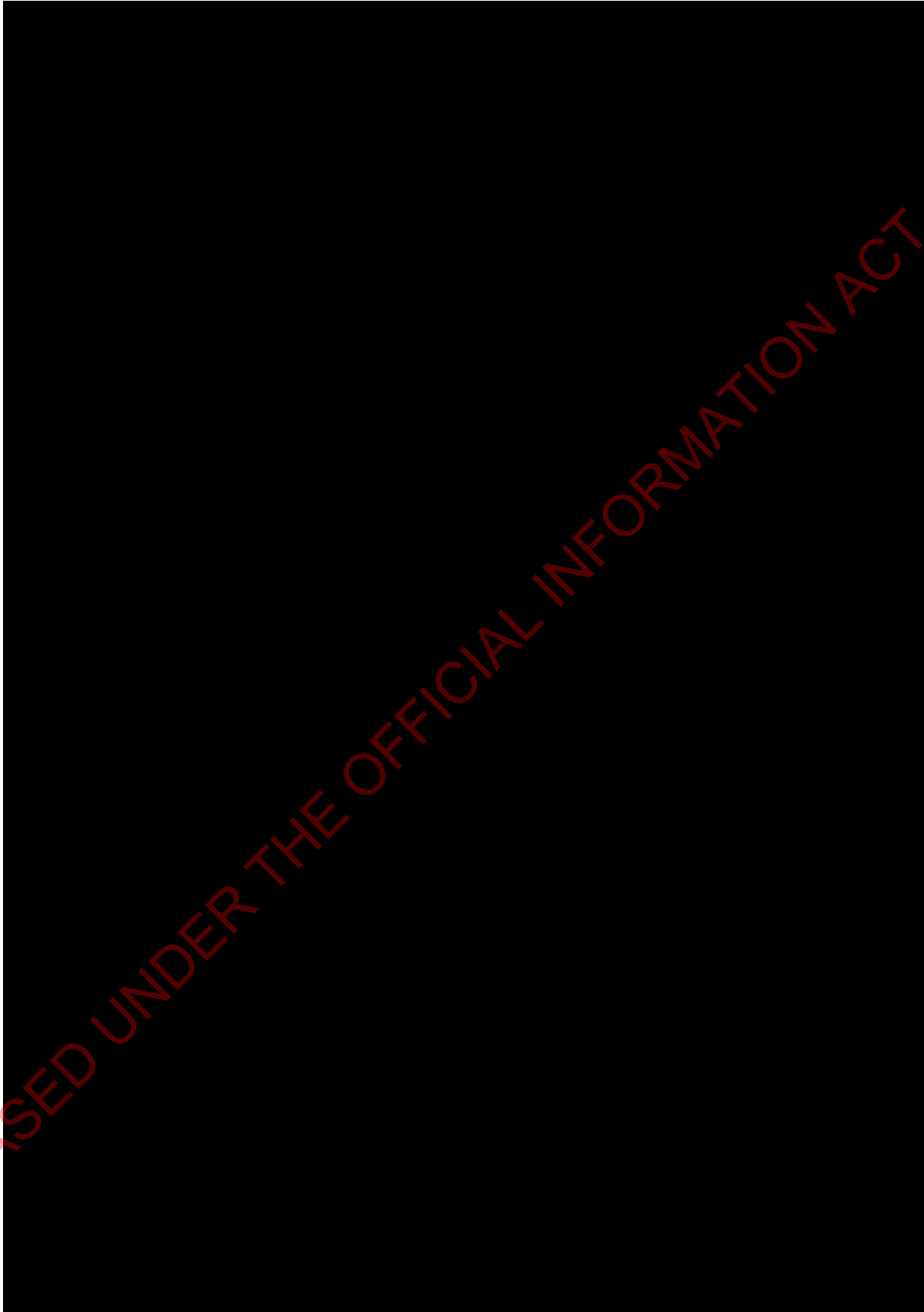


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C.2 Claim Sizes

9(2)(i) and 9(2)(j)



D Other Claim Classes

D.1 Lost Rent

The loss of rent cover applies if the policyholder has an AMI Rental House or House policy with a 'lost rent cover' option. Southern Response must reimburse the claimant for loss of rent during the period in which the house is deemed unfit to be inhabited due to earthquake damage.

We have used a Payment Per Active Claim (PPAC) approach to value the Lost Rent claim class in this valuation. This involves:

- Using a chain ladder approach to project future claim lodgements for each event.
- Selecting a finalisation pattern to project the period of time lost rent is being actively paid against the claim.
- Selecting an average claim payment per month while the claim is active.

There have been noticeable differences in finalisation rates and claim sizes for claims lodged during the major EQ events and after the major events. We have made different selections for finalisations and sizes for each of these groups. In general, claims that were lodged close to the September, February and June events remain active for longer periods of time, and average active payment sizes are higher. This pattern reflects the greater extent of damage against the property caused by the more significant EQ events.

For IBNR lost rent lodgements we have adopted an average claim size of \$9,000.

Table D.1- Lost Rent Claim Numbers

Lost Rent			
Claims			
	Cat 93	Cat 106	Cat 112
	Valid	Valid	Valid
Month	Claims	Claims	Claims
Sep-11	181	585	48
Dec-11	197	659	53
Mar-12	205	715	59
Jun-12	219	778	67
Sep-12	231	858	77
Dec-12	237	921	85
Mar-13	259	1,007	96
Jun-13	282	1,102	102
Sep-13	299	1,200	103
Dec-13	312	1,256	110
Mar-14	337	1,358	112
Jun-14	367	1,457	117
Sep-14	384	1,568	119
Dec-14	392	1,613	121
Mar-15	405	1,680	122
Jun-15	408	1,702	123
Sep-15	409	1,730	123
Dec-15	411	1,758	124
Mar-16	414	1,785	124
Jun-16	414	1,808	124
Sep-16	416	1,828	124
Dec-16	416	1,844	124
Mar-17	416	1,854	124
Jun-17	416	1,860	124
Sep-17	416	1,872	124
Dec-17	416	1,884	124
Mar-18	416	1,896	124
Jun-18	416	1,907	124
Sep-18	416	1,916	124
Dec-18	416	1,925	124
Ultimate	416	1,925	124

Figure D.1 – Average Payment per Active Lost Rent Claim

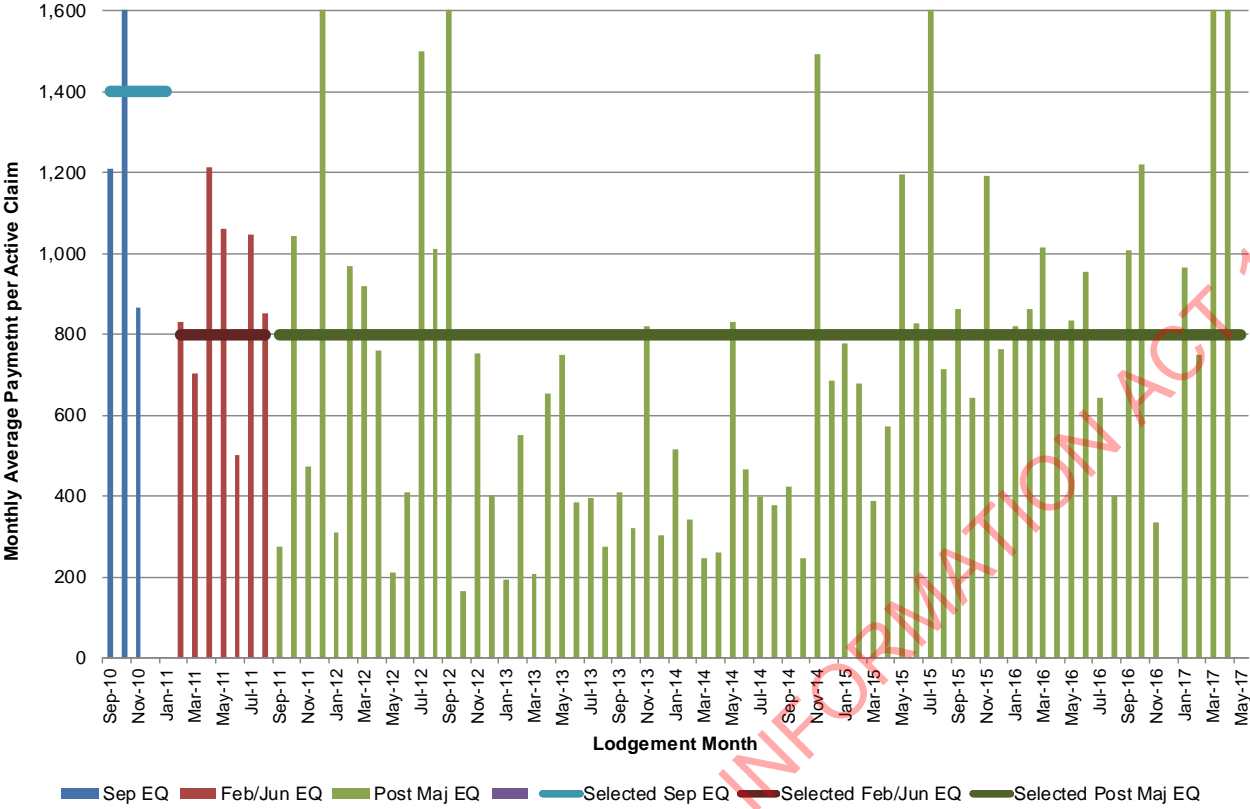


Figure D.2 – Cumulative Lost Rent Finalisations

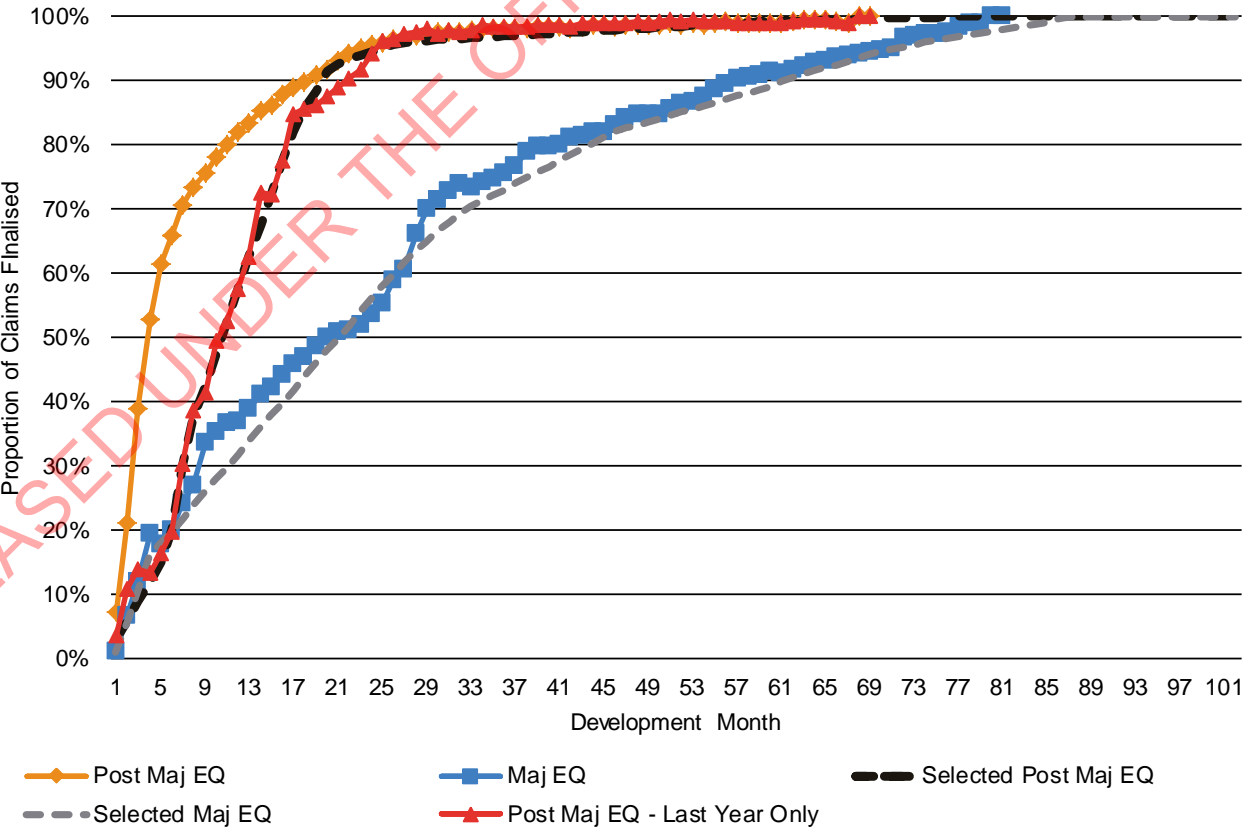


Table D.2 – Lost Rent Implied Payment Pattern for Future Claims

Implied Payment Pattern for Post Major EQ Claims	
Payment Month	Payment
1	776
2	752
3	728
4	704
5	680
6	640
7	560
8	500
9	460
10	420
11	380
12	340
13	300
14	260
15	220
16	180
17	144
18	116
19	92
20	68
21	60
22	52
23	48
24	44
25	40
26	36
27	32
28	31
29	30
30	30
31	29
32	28
33	27
34	26
35	26
36	25
37	24
38	23
39	22
40	22
41	21
42	20
43	19
44	18
45	18
46	17
47	16
48	15
49	14
50	14
51	13
52	12
53	11
54	10
55	10
56	9
57	8
58	8
59	7
60	7
61+	54
Future Selected	9,000

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D.2 Others

Table D.3 – Contents Average Claim Size and Numbers

Month	Contents					
	Claims			Size		
	Cat 93	Cat 106	Cat 112	Cat 93	Cat 106	Cat 112
	Valid Claims	Valid Claims	Valid Claims	Average Size	Average Size	Average Size
Nov-11	276	725	35	4,982	14,893	2,771
Dec-11	280	758	38	4,935	14,532	3,652
Jan-12	281	784	43	4,930	14,400	3,815
Feb-12	286	803	46	4,929	14,271	3,788
Mar-12	292	823	47	5,020	14,067	3,725
Apr-12	293	833	48	5,003	14,008	3,670
May-12	296	843	49	4,965	13,976	3,647
Jun-12	297	851	50	4,948	13,893	3,601
Jul-12	301	859	50	4,928	13,808	3,601
Aug-12	301	870	52	4,928	13,880	3,480
Sep-12	301	878	52	4,928	13,773	3,480
Oct-12	301	878	53	4,928	13,773	3,575
Nov-12	304	881	53	4,912	13,739	3,575
Dec-12	305	882	53	4,899	13,763	3,575
Jan-13	308	890	53	4,918	13,688	3,575
Feb-13	310	895	53	4,990	13,644	3,575
Mar-13	312	901	54	5,031	13,655	3,539
Apr-13	316	903	54	5,053	13,626	3,539
May-13	320	911	54	5,028	13,626	3,539
Jun-13	320	915	55	5,028	13,662	4,850
Jul-13	321	927	55	5,022	13,573	4,850
Aug-13	322	946	55	5,032	13,427	4,850
Sep-13	323	959	55	5,027	13,339	4,850
Oct-13	328	969	57	5,153	13,294	4,955
Nov-13	328	980	57	5,153	13,252	4,955
Dec-13	328	991	57	5,153	13,211	4,955
Jan-14	328	998	57	5,153	13,146	4,955
Feb-14	330	1,005	58	5,144	13,104	5,038
Mar-14	332	1,015	58	5,171	13,042	5,038
Apr-14	333	1,022	60	5,196	12,985	4,935
May-14	338	1,029	61	5,237	12,976	5,012
Jun-14	339	1,071	61	5,295	12,694	5,012
Jul-14	343	1,093	61	5,266	12,513	5,012
Aug-14	348	1,125	62	5,222	12,279	5,014
Sep-14	350	1,140	62	5,281	12,174	5,014
Oct-14	352	1,155	63	5,265	12,059	5,127
Nov-14	353	1,168	63	5,261	12,010	5,127
Dec-14	354	1,177	63	5,301	11,987	5,127
Jan-15	357	1,179	64	5,269	11,971	5,174
Feb-15	360	1,189	64	5,257	11,929	5,174
Mar-15	361	1,196	64	5,245	11,917	5,174
Apr-15	363	1,204	64	5,483	11,897	5,174
May-15	364	1,213	64	5,471	11,854	5,174
Jun-15	364	1,224	64	5,471	11,833	5,174
Jul-15	365	1,232	64	5,459	11,810	5,174
Aug-15	366	1,242	64	5,478	11,809	5,174
Sep-15	368	1,250	64	5,575	11,760	5,174
Oct-15	369	1,256	64	5,612	11,714	5,174
Nov-15	370	1,265	64	5,604	11,651	5,174
Dec-15	373	1,271	64	5,729	11,650	5,174
Jan-16	374	1,279	64	5,729	11,645	5,174
Feb-16	374	1,287	64	5,729	11,611	5,174
Mar-16	374	1,291	64	5,729	11,614	5,174
Apr-16	375	1,297	64	5,736	11,608	5,174
May-16	375	1,301	64	5,736	11,589	5,174
Jun-16	376	1,303	64	5,742	11,584	5,174
Jul-16	377	1,312	64	5,726	11,572	5,174
Aug-16	377	1,315	64	5,726	11,551	5,174
Sep-16	379	1,326	64	5,805	11,525	5,174
Oct-16	380	1,331	64	5,942	11,584	5,174
Nov-16	382	1,336	64	5,977	11,590	5,174
Dec-16	382	1,341	64	5,977	11,593	5,174
Jan-17	385	1,346	64	6,290	11,625	5,174
Feb-17	387	1,349	64	6,442	11,621	5,174
Mar-17	390	1,351	64	6,564	11,634	5,174
Apr-17	391	1,352	64	6,610	11,633	5,174
May-17	393	1,360	64	6,599	11,670	5,174
Jun-17	395	1,364	64	6,667	11,696	5,174
Jul-17	397	1,368	64	6,735	11,722	5,174
Aug-17	399	1,372	64	6,802	11,748	5,174
Sep-17	401	1,376	64	6,868	11,774	5,174
Oct-17	403	1,380	64	6,934	11,799	5,174
Nov-17	405	1,384	64	6,999	11,825	5,174
Dec-17	406	1,388	64	7,031	11,850	5,174
Jan-18	407	1,390	64	7,063	11,863	5,174
Feb-18	408	1,392	64	7,095	11,875	5,174
Mar-18	409	1,394	64	7,127	11,888	5,174
Apr-18	410	1,396	64	7,158	11,900	5,174
May-18	411	1,398	64	7,190	11,913	5,174
Jun-18	412	1,400	64	7,221	11,925	5,174

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E Other Factors

9(2)(i) and 9(2)(j)

Table E.4- Payment Pattern

Month	All Overcaps	Out of Scope Pattern	Lost Rent Pattern	Temp Accom Pattern	Contents Pattern	Vehicles Costs Pattern	Other Pattern	Arrow Costs Pattern
Jul-17								
Aug-17								
Sep-17								
Oct-17								
Nov-17								
Dec-17								
Jan-18								
Feb-18								
Mar-18								
Apr-18								
May-18								
Jun-18								
Jul-18								
Aug-18								
Sep-18								
Oct-18								
Nov-18								
Dec-18								
Jan-19								
Feb-19								
Mar-19								
Apr-19								
May-19								
Jun-19								
Jul-19								
Aug-19								
Sep-19								
Oct-19								
Nov-19								
Dec-19								
Jan-20								
Feb-20								
Mar-20								
Apr-20								
May-20								
Jun-20								

Table E.5 - Selected Future Inflation Rates

Quarter	Treasury National Forecast (% pa.)	Selected - Canterbury (% pa.)
Jun-17	5.6%	3.0%
Sep-17	5.0%	3.0%
Dec-17	4.3%	3.0%
Mar-18	3.9%	3.0%
Jun-18	3.4%	3.0%
Sep-18	2.9%	3.0%
Dec-18	2.7%	3.0%
Mar-19	2.7%	3.0%
Jun-19	2.7%	3.0%



Table E.6 – Discounting Rates

Month	Discounting	
	Spot Rate	Discount Factor
Jul-17	1.77%	0.999
Aug-17	1.79%	0.998
Sep-17	1.81%	0.996
Oct-17	1.82%	0.995
Nov-17	1.84%	0.993
Dec-17	1.86%	0.992
Jan-18	1.88%	0.990
Feb-18	1.90%	0.988
Mar-18	1.92%	0.987
Apr-18	1.94%	0.985
May-18	1.96%	0.983
Jun-18	1.97%	0.981
Jul-18	1.99%	0.980
Aug-18	2.01%	0.978
Sep-18	2.03%	0.976
Oct-18	2.04%	0.974
Nov-18	2.06%	0.972
Dec-18	2.08%	0.970
Jan-19	2.09%	0.969
Feb-19	2.11%	0.967
Mar-19	2.12%	0.965
Apr-19	2.14%	0.963
May-19	2.15%	0.961
Jun-19	2.17%	0.959
Jul-19	2.18%	0.957
Aug-19	2.20%	0.955
Sep-19	2.21%	0.953
Oct-19	2.23%	0.951
Nov-19	2.24%	0.949
Dec-19	2.25%	0.947
Jan-20	2.27%	0.945
Feb-20	2.28%	0.943
Mar-20	2.29%	0.941
Apr-20	2.31%	0.938
May-20	2.32%	0.936
Jun-20	2.33%	0.934

F Accounting Disclosures

Table F. 1- Outstanding Earthquake Claims

	Jun-17		Jun-16	
	Group	Company	Group	Company
	\$000	\$000	\$000	\$000
Outstanding claims				
Risk margin				
Claims handling costs				

9(2)(i) and 9(2)(j)

Table F.2 - Claims Development

	Total \$000
Discounted central estimate	
Claims handling expense	
Risk margin	
Gross outstanding claims liabilities	
Reinsurance receivables (refer Note 17)	
Net outstanding claims liabilities (refer Note 3)	

9(2)(i) and 9(2)(j)

Table F.3 - Key Actuarial Assumptions - Earthquake

	Jun-17	Jun-16
	Company	Company
Future Inflation		
Building Cost		
Out of Scope		
Temporary Accommodation		
Other cover types		
Claims Handling Expenses		
Discount Rate		
Risk margin – Outstanding Claims Liabilities		
Risk margin – Liability Adequacy Test		
Average weighted term to settlement from reporting date	0.88 yrs	0.87 yrs

9(2)(i) and 9(2)(j)

Table F.4 - Sensitivity Analysis – Impact of Changes in Key Variables

	Movement in Variable	Net Outstanding claims	
		Jun-17 \$000	Jun-16 \$000
Inflation Rate	+1% p.a.	5,273	5,941
	-1% p.a.	-4,697	-5,920
Discount Rate	+1% p.a.	-5,183	-6,740
	-1% p.a.	5,870	6,899
Claims Handling Expense	+10% higher	3,319	5,054
	10% lower	-2,757	-5,054
Risk Margin	1%	5,889	6,974
	-1%	-5,327	-6,974

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G Non-EQ Claims

Table G.5 – Summary of Non-EQ Claims Provision

		Gross	less Paid	Gross	Claims	Gross	Reinsurance	Net	Risk	Recommended
		Incurring Cost	to 30 Jun	Outstanding	Handling	Central	Recoveries	Central	Margin	Provision
				Claims	Expense	Estimate		Estimate		
Events	CAT 121	1,845.4	(1,845.4)	0.0	48.4	48.4	0.0	48.4	0.0	48.4
	CAT 116	3,828.9	(3,825.4)	3.5	46.7	50.2	0.0	50.2	0.4	50.6
	CAT 115	1,630.9	(1,629.1)	1.9	15.2	17.0	0.0	17.0	0.2	17.2
	CAT 108	1,608.9	(1,608.9)	0.0	5.6	5.6	0.0	5.6	0.0	5.6
	CAT 105	1,815.8	(1,815.8)	0.0	24.2	24.2	0.0	24.2	0.0	24.2
	CAT 100	1,687.6	(1,687.6)	0.0	0.7	0.7	0.0	0.7	0.0	0.7
	CAT 98	415.9	(415.9)	0.0	4.1	4.1	0.0	4.1	0.0	4.1
	CAT 96	1,668.0	(1,668.0)	0.0	1.8	1.8	0.0	1.8	0.0	1.8
	CAT 90	920.8	(920.8)	0.0	7.0	7.0	0.0	7.0	0.0	7.0
	CAT 91	2,461.6	(2,461.6)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Per Risk Claims	1,728.2	(1,728.2)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total		19,612.0	(19,606.6)	5.4	153.5	158.8	0.0	158.8	0.5	159.4