

1855 – Then and Now

An EQC perspective of the 1855 South Wairarapa earthquake

(A paper presented at the 1855 Wairarapa Earthquake Symposium held in Wellington during September 2005)

Introduction

The 1855 Wairarapa earthquake is a significant event in the tectonic history of New Zealand, particularly for what is now known as the greater Wellington Region. It was not only unnerving for the people and a potential set-back to the New Zealand Company's aspirations for settlement in the region, but also the event was one of the first documented earthquakes to occur since Europeans arrived in New Zealand. Other papers being presented at this seminar no doubt use that documentation to describe the event in great scientific and social detail, and no attempt is made here to repeat the descriptions, but it is worth noting that:

- We believe that earthquake insurance did not exist in New Zealand (possibly not anywhere) at that time,
- Some lessons were learned and applied by those who experienced both the 1848 and the 1855 quakes (e.g. strengthening of buildings); thus mitigation was alive and well in those days,
- People will live and build where they want to, and are not seriously deterred by the threat of natural disasters, including earthquakes.

Aim

This paper presents an earthquake insurance perspective on the 1855 Wairarapa earthquake.

Scope

A short description of earthquake insurance in 1855 is followed by an overview of the development of the current earthquake insurance situation in New Zealand. The paper then applies the current arrangements to that earthquake, as if it were to re-occur in 2005.

What Happened Then

We have no evidence of earthquake insurance being a saleable commodity in the mid-nineteenth century. Even though insurance was a mature industry in Europe at that time, the New Zealand Insurance company was the first insurer established in this country in 1859. Others followed in later years.

Thus it is reasonable to assume that people were very much on their own in 1855 with respect to asset recovery following an earthquake. It is unlikely that anyone had self-insured (ie, set up a hedge scheme involving payments to some kind of fund) even for fire, let alone earthquake.

So people were required to carry the risk themselves. Some rebuilt, others left the region to restart life elsewhere in the colony, yet others decided to return to their homeland or went to pastures new, like San Francisco. The net result, however, was continued growth throughout the Wellington region and a general acceptance that earthquakes are yet another feature of life that has to be lived with.

What has Happened Since

Earthquake insurance remained a rare commodity in New Zealand until the 1940's. Although the 1929 Murchison and the 1931 Napier earthquakes provided some incentive towards officially designating certain improvements to building standards it was not until the 1942 Masterton quake that insurance appeared on the scene. It was clear to the community in general and to government in particular that some scheme was necessary to ensure that the enduring scenes of rubble and un-repaired buildings became a thing of the past.

There was at the time (1942) a war damage commission whereby people who had insured their property for fire were also covered by the government (through the State Fire Department) for damage resulting from warlike acts. (For the record, there were some 47 war damage claims, totaling about 1,100 pounds.)

The government extended the war damage to earthquakes and formed the Earthquake and War Damage Commission, so legislated in 1944. The commission remained in the State Fire organisation and the war damage fund of a little over £4,000,000 was transferred to the new commission. The same basic rule applied: cover was compulsory if one had fire insurance.

The government reforms of the eighties saw the State Fire change from a corporation to a state owned enterprise, to be sold in the early nineties. The Earthquake and War Damage Commission was kept by the government but did not escape significant reform itself. The war damage cover was abolished and the name shortened to Earthquake Commission (EQC). Cover is now restricted to dwellings and personal effects only, forcing commercial enterprises (and motor vehicle owners) to seek earthquake insurance from the open market. The compensation payable is now based on replacement costs rather than indemnity value as in the past.

The separation of EQC and State Fire had another significant knock-on effect. No longer could EQC (with eleven staff) call on the much greater resource of State to help out after a big earthquake. At the risk of over-simplification, the first responses to Inangahua and Edgecumbe were to "pick up the phone and call State". Now EQC was on its own.

Work started in 1993 towards producing a disaster plan for EQC. It began with a simple but admittedly impracticable plan of "all hands to the wheel," whereby commissioners and staff would together take claims on any available telephone in the office. Arrangements were also made to use rented office space in Manukau City should the current space in Wellington become unusable.

In 1994 a series of overseas studies and visits were made to acquire knowledge of best practice catastrophe response arrangements. The Northridge, California earthquake of that year gave a timely example upon which to base those studies. The huge domestic insurer, State Farm, based in Illinois provided the best example. We spent several days at their Northridge operation in the field and at their corporate office.

Because of State Farm's size (65,000 employees) finding resources internally to meet the many dozens of responses they have each year is not a major problem. People and material are almost exclusively sourced from within the company. EQC could not possibly emulate that with its by then fourteen staff. But the general approach and field processes used by State Farm gave us a benchmark for us to build our own programme.

The arrangements for use of the Manukau City site were tidied up in 1995 with arrangements in place for getting it equipped and readied for us to occupy at short notice. We also worked up arrangements for a single site disaster affecting Castrol House, Wellington. This became the basis of the EQC business continuity plan, and those arrangements still exist and are exercised on a regular basis.

The real challenge was to design and implement a programme for handling claims; extending the resources available to EQC without paying excessive retainers for people and storehouses of equipment that might never be used. At the same time we also had to work up efficient ways to deal with huge numbers of claims, both in the field and at the office. 1995 and 1996 were the substantive planning years, at the end of which we were able to say with confidence, "this is what we will do following a big earthquake." During 1997 we turned the plan into an operative programme by setting up the contractual arrangements needed to ensure the plan would work. We were then able to say "EQC no longer just has a catastrophe plan; we now have a catastrophe response programme (CRP)."

What follows is a narrative of EQC's response to the 1855 magnitude 8.1 Wairarapa earthquake if it happened exactly 150 years later.

What if It Happens Now?

9.32pm Sun 23 Jan 2005 – the Event

It was an overcast night, with 30-40km/hr northerly winds and a mild 17 degrees. Without warning the world seemed to toss upside-down in an unbelievable cacophony of noise. It carried on for many seconds during which the power went off and all was dark. Groping about the house amongst furniture careening about, people screaming, and buildings tearing apart, it was total confusion and utter terror for most.

Accounting for family members didn't take long and finding torches had just finished when the first aftershock happened. While not as severe as the first, it nevertheless seemed just as frightening. It signaled the start of a long night never to be forgotten.

Monday 24 Jan 05 – Day One

Daylight showed us all the extent of the destruction in the suburbs – houses in various states of damage, power and phone poles down, streets cluttered with debris, smells of escaped gas and sewage, and people walking around seemingly in a daze not wanting to believe what happened. The fresh winds continued with occasional showers and a southerly front expected later in the day. The aftershocks continued. Radio news bulletins seemed somewhat sketchy but there was sufficient to know that this was Wellington's "Big One".

EQC's CRP doesn't require any form of declaration for an event like this. The arrangements are such that several things happen simply with the knowledge that there has been a major quake in the Wellington region. Without any prompting

by EQC three contracted commercial call centres began calling in extra staff from this Monday morning to deal with the huge number of calls from people wishing to lodge a claim on EQC. Between them, they mustered over 100 operators by lunchtime, capable of taking well over 8,000 claims in a 24-hour period.

Similarly, a contracted property management company in Auckland began furnishing and setting up the office accommodation for EQC in pre-arranged space in Manukau City, and also ensured that our IT suppliers checked over the warm-site computer gear already installed there.

Also, a contracted communications company in Auckland sent out pre-written press releases and advertisements advising people how to lodge a claim with EQC, together with the message to be prepared to wait to see someone from EQC. This is the start of our drive to say to the public “there is no quick fix for this earthquake.”

Meantime the EQC staff in Wellington, acting as practiced many times over recent years, concentrated on their own domestic situation, securing their properties as best possible and preparing for a period in Auckland. We knew that it would not be possible for all staff members to leave home for a variety of valid reasons, but our belief that we could muster more than 60% proved correct – we had enough to get the operation under way, with help from others as described later.

Monday was also a day for selected staff members to do other things, in preparation for our critical initial response meeting next day. A short liaison visit to the nearest civil defence headquarters was done by some staff members, and others ran Minerva on their notebook computers. This statistical model is designed primarily for financial management purposes, but since it also provides data about expected claims from a given event it is a valuable operational planning tool. You can’t meaningfully start a major project without knowing the extent and location of the job, and Minerva does this very well for EQC.

Minerva indicated that EQC could expect about 240,000 claims distributed as indicated on the map below, and with the severity as shown in the table below.

MINERVA005 - Earthquake Output - Claims Bands

View Output - Claims Bands

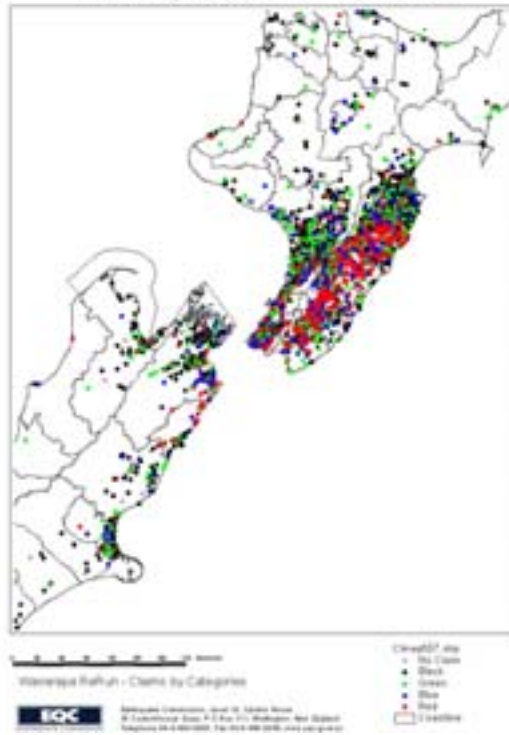
Policies with Claims in Each Band(1-5)

Run at % 50

Policies with Claims 243531

Area Type	Area ID	Claims in Band 1	Claims in Band 2	Claims in Band 3	Claims in Band 4	Claims in Band 5	Total
ATNC		11,415	56,995	51,624	50,254	67,209	243,531
Region	NORTHLAND	2	2	5	9	10	26
Region	AUCKLAND	19	36	29	25	41	151
Region	WAIKATO	47	75	42	15	11	191
Region	BAY OF PLENTY	22	27	13	9	3	94
Region	GISBORNE	19	25	9	8	2	59
Region	HAWKE'S BAY	3,136	8,333	5,821	4,977	4,949	26,419
Region	TARANAKI	12	27	6	6	7	59
Region	MANAWATU-WANGANUI	4,672	13,799	10,516	8,052	8,025	45,069
Region	WELLINGTON	5,907	30,560	34,676	36,467	53,829	161,439
Region	TAIRANUI	152	221	117	49	34	573
Region	NELSON	174	361	148	75	52	680
Region	HAMILTON	807	2,745	1,881	1,188	90	7,642
Region	WEST COAST	5	5	2	2	1	15
Region	CANTERBURY	318	749	433	274	244	2,019

Earthquake Commission



Tuesday 25 Jan 05 – the Meeting

As trained and practiced, all EQC staff who were able to relocate to Auckland counted two sunrises from the time of the earthquake. By 9.30am that second day, Tuesday, those people took an issued EQC banner to a pre-designated helicopter pick up point near their home and pinned it to the ground. A pre-contracted helicopter from Rotorua arrived and took them to Naenae College for the initial response meeting.

The purpose of the meeting was to decide how many field offices were needed, where they should be established, and when. The raw intelligence used in this process included the results of the Minerva runs, visits to CD headquarters in the four cities, updated data from GNS, media information, and personal observations of staff members. It was decided to initially set up five field offices (Palmerston North, Waipukurau, Masterton, Blenheim, and Nelson) by Monday 31 January and an induction centre at Wanganui two days earlier. It was clear that the damage to infrastructure in the four cities was such that we could not usefully deploy into metropolitan Wellington in large numbers for a week or two at the earliest. The strategy was thus to work from the outside in towards the middle.

The helicopter waited for the meeting to finish before ferrying everyone to Wanganui to catch flights to Auckland.

Tue/Wed 25/26 Jan – Resources

The next thirty hours was a hectic period of acquiring the resources needed and having them assembled at the designated locations.

Our contracted property management company found hotel and motel accommodation for us in each of the designated towns. They also arranged and equipped office accommodation, some of it in hotels; other sites used available commercial space.

Site managers from an executive leasing company, temps with various skills, inspection team leaders selected from the insurance industry, loss adjusters from companies in Australia as well as here, and damage estimators from Master Builders, Certified Builders and NZ Institute of Quantity Surveyors were all summoned to report to the induction centre in carefully timed groups starting by midday Saturday 29 January. We aimed to have these people do tours of three weeks on and three weeks off and most have been able to manage that.

For most sites we assumed that there would be little or no suitable furniture and equipment, so we had to hire (and for some items buy) the necessary materials. Consumables, stationery, EQC printed forms were also ordered from pre-arranged suppliers who were all familiar with EQC's requirements. Rental vehicles, tools, and protective clothing were also acquired.

Fri 28 Jan 05 – Inductions

Induction is a critical process in the EQC catastrophe response programme. All people working in the field must be inducted before they start work. The two and one half day programme involves administration for the first half day, followed by two days training. On Friday 28th the Avenue Hotel in Wanganui was secured for us and we set up the administration area and the training rooms. The trainers, selected loss adjusters and tutors from polytechnics, spent the day revising the training material and running rehearsals. This training process is practiced annually, so it was not new to these people.

It would take three intakes to get all the people through the induction process. The first induction started on Saturday 29th January and the subsequent three sessions were spaced three days apart. Thus the last major induction was finished by 9th February.

Sat/Sun 29/30 Jan 05 – Field Offices

All the field office sites became available to us by Saturday and that day was spent setting up the spaces as office working areas. We also brought in some temps from the local agencies to begin some of the paperwork and telephone calling. Being in the peripheral areas of the earthquake zone, there was by then no problems with infrastructural services at those places.

Each field office had received a spreadsheet of claims received so far in its area and it was then necessary to set up a visit schedule for each loss adjuster and damage estimator. This had to be done by the end of Sunday so that the first day of visits, Monday, coincided with the arrival of the inspection teams from their inductions.

Mon 31 Jan 05 onwards– Inspections

The inspections began. Because the teams were operating in the peripheral area of the earthquake zone where damage was relatively light, it was possible for loss adjusters to visit as many as twelve properties in a working day and the damage estimators to complete three scopes of works documents in a day. We mustered 66 loss adjusters and 130 damage estimators. Therefore the teams collectively were able to visit 19,000 homes **once only** in the first month. On that basis our estimate was that the **first visits** to all the 170,000 claimants that must be visited would be completed by the end of October this year, based on a six day working week and excluding public holidays. Many houses will require several visits and therefore the process of quantifying the damage for all properties will probably not be complete before the end of 2006 at the earliest. Hence the need for the highly pro-active public communication programmes.

Loss adjusters are required to manage both EQC's and the claimants' expectations and thus have a significant liaison role. The loss adjusters also use their insurance knowledge and experience to report to EQC with a recommendation on the amount (if any) of compensation that EQC is liable to pay the claimant.

The damage estimators are qualified people whose task is to inspect damage in detail and prepare a scope of works to make good the damage. When fully costed, the scope becomes the basis of the compensation payable (less any excess that might apply). By engaging such people (who come from well outside the disaster area) we have eliminated the counter-productive process of requiring claimants to get two or more quotes.

This leaves the local trades people to do the actual repairs without having dead time doing quotes. Our experience to date indicates that over 98% of scopes of works costings are accepted by repairers as being fair and reasonable.

Towards the end of February we were able to seriously consider opening more field offices closer to Wellington City. We cannot effectively operate a field office for longer than a few days without full infrastructural services operating. Our teams have to drive around the disaster area to complete their inspections, they are accommodated by EQC in operating hotels and motels, and we need adequate telecommunications to pass reports from the field to our claims back office in Brisbane and to the corporate office in Manukau City.

Our contracted property management company eventually found suitable living and working accommodation for us in all the four cities and in Paraparaumu. Our problem then became shortage of human resources, particularly loss adjusters and engineers. The loss adjuster resource is scarce in New Zealand and these people are in demand by the commercial insurance sector as well as EQC. We have sources in Australia but they dried up as they became involved with their own bush fire, flooding and tropical cyclone seasons. The shortage of engineers is well known, but is exacerbated somewhat by an earthquake when many organisations seek engineering advice. Many claims are being delayed by these shortages, about which there is little we can do.

The field work is but a part of the catastrophe response programme.

The claims office in Brisbane activated their own response programme for our big earthquake events and took over pre-arranged disaster recovery office space and set up a recruiting and training programme to increase their staff from four to thirty four by the end of February.

The public communication programme grew substantially with almost twice-weekly press statements and an advertising campaign explaining the claim process, how to lodge a claim, and what entitlements people have. This programme is run in conjunction with other central and local government agencies. Also in the third week of February one of the contracted call centres was changed from in-bound (receiving claims) to out-bound, calling claimants and maintaining a communication with them.

In February, when some better idea of the exposure EQC faces was emerging, considerable effort was made in dealing with government and our re-insurers about the matter of calling down re-insurance arrangements, the cash flows associated with the call-downs, and the need or otherwise to call on the government guarantee.

For EQC earthquakes mean business as usual but more than the usual amount of business. The normal activities of running the office, paying staff and taxes, managing the investments of the Natural Disaster Fund, complying with relevant legislation and directives, public education, the research programme, and the dozens of other routine activities of an organisation all still carry on.

9 Sep 05 – Current Situation

It is now 33 weeks since the main shock in January. The EQC corporate office has returned to the Majestic Centre in Wellington (other more qualified speakers at this symposium can tell us when one may expect the Wellington CBD infrastructure to be functioning after this quake, so we have not named our date of return from Manukau City).

As at today we have quantified (costed in detail) about 84,000 claims and completed just over 70,000 from our total of 240,000 – about 35% quantified and 29% are complete. Our modeling shows that if we can maintain present numbers in the field, all claims will be quantified by July 2007 and completed by the end of September 2007. These figures are optimistic. We are not confident that we could maintain the stated numbers of loss adjusters and experts such as engineers for this many years, and we are not yet able to gauge how long repairs might take. Nor can we forecast any economic, social, or political issues that may influence the recovery programme. It would not be unreasonable therefore to add another year or more to the programme.

One thing, however, is patently clear. EQC's, indeed everyone's, response to this earthquake cannot be an overnight quick fix because the resources simply do not exist. Therefore, we need to ensure that the whole community understands this; it's why we place strong emphasis on using out-bound call centres, having a vigorous public communication programme, and placing "managing claimants expectations" at the top of our loss adjusters' duty list.