

**HEARING RESUMES ON TUESDAY 4 SEPTEMBER 2012 AT 9.31 AM****MR ZARIFEH:**

5 Good morning Sir, morning Commissioners. Today the aim is to have a panel  
discussion and as the Commissioners see there's quite a large panel has  
evolved. There's 11 and the proposal anyway, perhaps it can be a moving  
feast depending on how things go, is to work through some of the issues that  
Mr Brunson raised yesterday. Some may need more discussion, some may  
need less, some may need none at all, and it may soon eventuate that there's  
10 consensus on some of those issues. What is proposed is that we could use  
the questions and topics that are attached to the hearing plan as a basis.  
There are obviously topics within those main topics and as I say it may be a  
bit of a moving feast in that there's no need to stick to that obviously and  
Your Honour may have and the Commissioners may have some firm ideas of  
15 what you need particular assistance with and opinions on. So I thought if we  
could start. If I just ran through and told you who was on the panel. Then they  
will have to be sworn in, I don't know if that perhaps could happen next? And  
then, in bulk, what I propose is that we perhaps start at the end and work  
round and each speaker simply introduces himself, says which, a little a bit of  
20 his background, not intending it to be a CV by any means, just a couple of  
sentences on the background and what qualifications they bring and then the,  
what they can bring to this discussion, what particular angle they have or what  
particular issues they see as needing discussion. The idea not being that we  
then discuss them, but just so that the Commissioners have an idea of those  
25 views and can then call on people, particular issues.

**JUSTICE COOPER:**

Well we're quite happy for issues to be discussed if people nominate them as  
things from their point of view needing discussion.  
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**MR ZARIFEH:**

Yes, but I just meant not in that introductory process, just so that you've got  
an idea and then we'll come back to that and note can be made of it. So if I

can just run through who we've got, starting at the witness table on the Commissioners' right is Mr John Hamilton who is the director of Civil Defence. Next to him Mr Peter Wood, emergency management advisor for Civil Defence. Mr Michael Stannard next to him from the Ministry of Business, Innovation and Employment. Mr Brunsdon you know starting on your right at 5 counsel's bench. Mr Peter Smith who you also know who is representing NZSEE. Next to him Mr John Hare again who you know well who's representing SESOC. Next to Mr Hare is Mr Peter Mitchell from the general manager from the Council, and next to him Mr Steve McCarthy, again the 10 Commissioners know him well. Next to Mr McCarthy is Esther Newman. She was an emergency management advisor with the City Council following the September earthquake and then in the back, the next bench back where I am to your very right is Mr Tony Sewell who is the chairman I believe of the Property Council and next to him Mr Richard Toner who is chief building 15 officer at the Wellington City Council. So Sir if they could all be sworn in and then we can begin that first process.

**JOHN HAMILTON (AFFIRMED)**

**PETER WOOD (AFFIRMED)**

20 **MICHAEL STANNARD (AFFIRMED)**

**DAVID BRUNSDON (AFFIRMED)**

**PETER SMITH (AFFIRMED)**

**JOHN HARE (AFFIRMED)**

**PETER MITCHELL (AFFIRMED)**

25 **STEVE MCCARTHY (AFFIRMED)**

**ESTHER NEWMAN (AFFIRMED)**

**TONY SEWELL (AFFIRMED)**

**RICHARD TONER (AFFIRMED)**

30 **JUSTICE COOPER:**

Can we do what Mr Zarifeh suggested and just if you would go through and say a little bit about the interest which you're representing here and what issues you would like to see discussed. Can we start with you Mr Hamilton?

**MR HAMILTON:**

My name's John Hamilton. I'm the director of Civil Defence in the Ministry of Civil Defence and Emergency Management based in Wellington. I have held

5 the appointment since 2006. Between the 23<sup>rd</sup> of February 2012 and 30<sup>th</sup> of April 2012 I held the appointment of national controller based here in Christchurch for the Christchurch earthquake response. The Ministry of Civil Defence and Emergency Management's interest in managing buildings after an emergency is based on its role in enhancing measures that

10 reduce the risk, increase the level of preparedness and improve the response to and the community's recovery from an emergency, be that earthquake or any of the other hazard events that can strike New Zealand. Civil defence and emergency management is part of New Zealand's national security arrangements and it is designed to address all hazard risks and civil defence

15 emergency management is an integral part of our national security arrangement, and our focus in these efforts is on the community and the people that are tended to be impacted by the emergencies and the hazards that we face in New Zealand. Like most aspects of civil defence and emergency management I believe that managing buildings after an

20 emergency is a partnership between local government, the providers of specialist and technical services, central government agencies and civil defence, those involved in civil defence in the community. I believe we now have an opportunity to evaluate the processes that were used in Christchurch in the response to the earthquakes and redevelop and redefine the

25 procedures to provide enhancements that will then contribute to the goals of preserving lives, preventing the escalation of the emergency, providing essential services to the impacted community, protecting assets and preserving economic activity in the community. That ends my introduction today.

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**JUSTICE COOPER:**

Mr Wood?

**MR WOOD:**

Your Honour, I joined the Ministry of Civil Defence and Emergency Management in 2003 for the drafting of the first national plan under the Civil Defence Emergency Management Act 2002. I previously worked as a  
5 research scientist for GNS Science and its DSIR predecessor since 1973. My experience is related to research consulting policy development, hazard mitigation and emergency management, particularly in New Zealand but also California, Iceland and I have experiences of earthquake and their aftermath from 1968 through to recent events in Christchurch. I'm also the immediate  
10 past president of the New Zealand Society for Earthquake Engineering and in that role I have deployed learning from earthquake teams to Peru, China, 0940

Indonesia and Chile. The intent of deploying those teams is to bring back lessons to improve our management and to reduce risk from earthquake in  
15 New Zealand. Following both the Darfield 2010 and the Christchurch 2011 Canterbury earthquakes, as president of NSEE I also hosted international teams coming to New Zealand to learn from us and we have had interactions as demonstrated yesterday with Bret Lizundia's evidence. Post the February Christchurch earthquake I was a member of the National Controllers Team  
20 based in the Canterbury Response Centre and there I liaised with those managing impacted buildings and the illustration of those impacts through the use of geospatial information, both the Christchurch City Council and ECAN and others.

What I would like to contribute to the discussions today is better  
25 understanding of the vulnerabilities of our built environment and how to manage that following impacts such as earthquake but not restricted to it and part of that is the improvement needed in information management related to buildings in the business as usual environment as well as the emergency environment. That is my introduction.

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**JUSTICE COOPER:**

Mr Stannard.

**MR STANNARD:**

Thank you Your Honour, my name is Mike Stannard. I am the chief engineer for the Ministry for Business Innovation and Employment and formerly held the same position with the Department of Building and Housing which has  
5 now been merged into what is commonly termed as MB. I am a graduate civil engineer from the University of Canterbury, also a fellow of IPENZ and a member of New Zealand Society of Earthquake Engineering, the New Zealand Concrete Society and the Structural Engineering Society. I have extensive experience in engineering, construction management, project  
10 management and structural engineer, some structural engineering experience and I assisted the Christchurch city and the Civil Defence Controllers in the management of the rapid building safety evaluation process during the September 2010 earthquake and I was, helped manage the critical buildings project during the response to the 22<sup>nd</sup> of February 2011 earthquake, working  
15 with very experienced structural engineers both New Zealand and international and building owners to stabilise and demolish or demolish critically affected CBD high rise buildings. Since then I have been the Department or the MB lead on work to provide technical advice here in Christchurch for the repair and rebuild both in residential and for the  
20 development of the detailed engineering evaluation process for commercial buildings working with the MB's engineering advisory group. I was the Department lead to support the development of publication with Department and Ministerial endorsement of the NZSEE building evaluation during the state of emergency the 2009 guidelines and was involved in the subsequent  
25 development prior to the Darfield earthquake. I assisted Gisborne District Council during the immediate response to the Gisborne earthquake, on 20<sup>th</sup> of December 2007 and was also co-leader of the New Zealand Padang Assistance Project assessing damaged buildings and providing advice to local government agencies following the 30<sup>th</sup> of September 2009 Padang West  
30 Sumatra earthquake. And within MB and its preceding organisations I have lead changes to all aspects of the building code and its supporting documents and guidance including weather tightness, durability, structural issues, energy efficiency. I, so I guess I bring a central government regulatory perspective to

this discussion particularly from an agency that has been administered the Building Act and the Building Act regulates building and construction activity in the public interest so that people who use buildings can do so safely. So here there is a strong element of risk reduction and therefore its purpose is very aligned with the interest here of, seeing that there is a post-disaster building evaluation that provides the flexibility to mobilise the right resources appropriate to the scale of the disaster, whether it be earthquake, flooding or something else. To protect the public and building users and to facilitate recovery and that the legislation supports these objectives so that it is a relatively straightforward process and clear for those having to lead the response and recovery phases of any disaster. Consider that the building, the rapid building evaluation process implemented following Darfield and Christchurch earthquakes made an important contribution to the response to both events and yesterday we heard from Mr Lizundia on some of the important developments that can serve as a model for future events both in New Zealand and internationally. We have also heard some of the shortcomings that MB is committed to address and some of these are already being addressed such as the detailed engineering evaluation process developed by the MB engineering advisory group. I think part of our interest here also is learning from the perspective of others so that we can ensure that we provide appropriate advice to the Minister to ensure that we do have that appropriate building evaluation process put in place. So MB will continue to work with MACDEM and other central government agencies, GNS, local government, IPENZ, building officials, EQC, New Zealand – some of the professional societies, the architects, New Zealand Society of Earthquake Engineering, SESOC and New Zealand Geotechnical Society, plus international bodies particularly in California and Japan to better develop New Zealand's readiness response and recovery capability. So I think these Royal Commission hearings are a very valuable mechanism in an open forum to highlight the issues needing to be addressed. Thank you that is my...

**JUSTICE COOPER:**

Thank you Mr Stanndard. Mr Brunsdon.

**MR BRUNSDON:**

I am Dave Brunsdon, a director of Kestrel Group, a consultancy providing risk continuity and emergency management advice. I'm also a chartered professional engineer. As was covered – my involvement in the management of buildings following earthquakes was covered in yesterday's proceedings in addition to my involvement with Urban Search and Rescue planning and engineering delivery. In terms of today's discussions wearing the common hats of emergency management and engineering as we develop an enhanced process going forward I share the common interest of the panellists in seeking to clarify the process for those that will manage it, for the wider community that needs to understand it and particularly for those that implement it, giving the engineers, building control officials and other professionals involved in the field processes a clear technical briefing from the start is one of my particular objectives and interests. And just the observation that above all else this is an exercise in understanding risk and communicating it and requires the need for scientific engineering and regulatory elements to be well aligned.

**JUSTICE COOPER:**

Mr Smith:  
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**MR SMITH:**

My name is Peter Smith. I am a Director of Spencer Holmes Consulting Engineering Practice in Wellington. I represent the New Zealand Society of Earthquake Engineering. I've had some 40 years' experience as a consultant. Involvement with earthquake-prone buildings goes back to the 1970s where we were involved in doing a survey of earthquake risk buildings for Petone Borough Council. We're currently involved in assisting the Wellington City Council in the assessment of earthquake-prone buildings. I also had an involvement following the Gisborne earthquake and was involved in strengthening many buildings that were damaged in Gisborne. I have been involved in a reconnaissance to Chile after the Chilean earthquake and to

Samoa after the tsunami. I have had the pleasure of, the honour really, of being involved in the Royal Commission hearings on unreinforced masonry buildings and learnt the public's perspective that came out of those hearings. I've been involved with the Engineering Advisory Group for both the residential and commercial sector in Christchurch. My particular interest really is looking at how we can improve the resilience of New Zealand to such natural disasters as earthquake, to improve the framework in which response and recovery takes place and, wherever possible, to reduce the loss of life that can eventuate from such a disaster.

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**MR HARE:**

My name is John Hare. I am here today representing the Structural Engineers Society (SESOC). I'm also a structural engineer, principal, and director of the Holmes Group of companies where I've been for most of the last 27 years during which time I spent a lot of time on both the assessment and strengthening of older buildings, often masonry heritage structures. I think since October 2010 I've been involved directly in a lot of what's going on. First of all in the residential side of the Engineering Advisory Group but also since then, since March, as the chair of the commercial workstream devoted primarily to developing detailed engineering evaluation guidelines. During that time I've also been acting as Principal Engineering Advisor, first of all, to Civil Defence and then to CERA as they worked their way through a number of the issues that have obviously been confronting them. I think in just a few of the topics I see as being critical here I think first and foremost, which has already been said, the need to balance risk really against the need to get on with life following such a disaster and I think for a lot of us in the technical space getting an appreciation of all the other things that have to be brought into play to be able to deal with that. That leads really to the broad issue of communication of understanding of risk and I feel that's something that is probably not best made in the heat of the moment. I think for a lot of the public that these perceptions of risk are about the immediacy of the disaster so we have to be able to plan ahead for that. On the more detailed side I think there's been a lot of discussion of the capacity checks, ground motion

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estimation and I think the crudity with which we can do that really lessens the effectiveness on it, particularly in the short term so we need to consider that. Which leads to the next point which really, I think, what we've discovered in looking at buildings is that it's all about vulnerabilities. It's not about capacity  
5 which is what really determines whether a building should be used or not. Fifth point, clearly what this has shown us more than anything else is that more can be done ahead of the disaster than after. We're not learning here for Christchurch as much as we are for the rest of us, of the country, and, therefore, it's important that we adapt the procedures we've learnt from it.  
10 Finally, I think, regardless of the amount of planning we do we can't lose sight of the fact that you can't have the perfect disaster. We can't lose sight of the need for people to take action, to innovate and to take personal responsibility. I think we've seen a good deal of that and it would be a shame if we lost sight of how effective that's been in covering most of the things that we've seen.

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**MR MITCHELL:**

Good morning, my name's Peter Mitchell. I'm the General Manager of Regulation and Democracy Services for the Christchurch City Council. In that role I report to the Chief Executive. I've been with the Council since 1983 and  
20 in my current role since 2003. Generally responsible at a senior management level for the Council's regulatory activities and, in particular, of course, in this regard for building and resource consents, Council enforcement processes. I'm also one of the local controllers appointed by the Council and have been involved in that role in September 2010, Boxing Day, February 2011 and then  
25 when the National Controller was appointed reported to him and also involved in June 2011 and December 2012. So the issues are around –

**JUSTICE COOPER:**

December?

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**MR MITCHELL:**

Sorry? December 2011 sorry, my apologies, hopefully not December 2012. So the issues that were touched on yesterday, for example, around processes

where there's not a state of emergency is of keen interest to the Council from that perspective as well. I think clearly the work of the Royal Commission and the recommendations, whatever legislative changes come, will be critical to the Council given it will be a key player in implementing a lot of those changes  
5 from that point of view.

**MR MCCARTHY:**

Good morning. My name is Steve McCarthy. I have worked for the Council at Christchurch since 2006. Prior to that I worked for a number of other local  
10 authorities and was involved in quite a number of civil defence emergencies during that time. Following the various states of emergency I was a Building Evaluation Manager post September and then post February earthquakes. I was previously, when I came to Christchurch Council, I was involved in the preparation of our emergency response and the implementation of the  
15 placarding system and training for that. I worked with many of the people on this panel in the implementation of future strategies going forward in case there is another emergency and, indeed, in much of the rebuild. My present position includes building policy so I have a primary interest in the proper integration of legislation across the subject. Also the responsibilities of  
20 different parties to, including building owners, I think needs to be clarified and I'm particularly interested in that in this panel discussion and Mr Mitchell has tasked me partially with implementing the recommendations of the Royal Commission as appropriate going forward and also changes to the Building Act so we are preparing. Thank you, Sir.

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**MS NEWMAN:**

Good morning, I'm Esther Newman. I'm a Business Continuity Consultant. I'm a qualified Emergency Management and Business Continuity Management Practitioner. From 2006 to August 2010 I worked at the  
30 Christchurch City Council as an Emergency Management Advisor. At the time of the September 4<sup>th</sup> earthquake I'd just finished working for the Christchurch City Council. I volunteered to support in the immediate response of the September earthquake and the subsequent events in December and

February. I was appointed to manage the building evaluation transition team, commonly referred to as the BET team, from September the 20<sup>th</sup> to November the 29<sup>th</sup> 2010. The insight I suppose I bring to the panel relates to that transition period between the state of emergency and business-as-usual management within the regulatory framework of the Building Act. I'm particularly interested in, from my emergency management background, in bringing an all hazards and all risks approach to the management of buildings and also in the implications of the particular technical proposals to those who use buildings, so from the social and economic implications. Because addressing the technical procedures is only one part of what is required. The people impacts are particularly important.

**JUSTICE COOPER:**

Mr Sewell?

**MR SEWELL:**

I am Tony Sewell. I am the president of the New Zealand Property Council. That is an organisation that represents the interests of property owners and property managers throughout New Zealand. I have held that role since April this year. It is an elected position for two years. I've been a member of the board for five years prior to that and for my full-time job I'm the chief executive of Ngai Tahu Property, a business that I've, a role I've held for 19 years – 18 years sorry. So I've got some reasonable first hand knowledge of what happens to a building owner and manager at a time when an event occurs in Canterbury. We hold or we own eight buildings in Christchurch, five of which would be considered to be significant. Three of them the Christchurch City Council office, the police station and the courts all being very significant buildings. Our response to the earthquake I think will be of some interest.

**JUSTICE COOPER:**

You are leaving out the Court building, I can't understand that?

**MR SEWELL:**

Yes well we could have a private chat about that. I've unfortunately missed yesterday but I've read the papers and I've read the report from Dave Brunsdon. The issues for our organisation are that there's a woeful lack of knowledge and preparedness on what an owner does in these events, and there's also a woeful lack of systems in place to pick up that knowledge and to get us into a position. I think that needs to be put into context though, that the property industry is an industry with no barriers to entry whatsoever. So the breadth of ownership in the industry is immense from small family, small individual, small low wealth individuals to large multinationals, and as such managing that process we understand would be quite difficult. For us at the Property Council we are very keen to see that out of this Commission comes some process whereby our members become well equipped to live in this environment that we live in, in New Zealand.

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**JUSTICE COOPER:**

Mr Toner?

**MR TONER:**

Thank you, my name's Richard Toner. I work for the Wellington City Council. I've worked there for 32 years and for the last 20 years I've held management role in the building consenting and inspection area. In terms of my role at the Wellington City Council I have direct responsibility for our building evaluation process and have been directly involved in developing that over a 20 year period. I can say that our processes currently very much follows the published guidelines and our council has been active in training both our building officers and our contract engineers. We found that in responding to Christchurch that our staff including myself that had some training and that was of great benefit and I personally helped the Christchurch City Council for nine days after the September earthquake and 10 days after the February earthquake in helping manage the building evaluation process. I was also a member of the national reference group that provided some advice and finalisation into the guidelines for DBH, for the then DBH. I'm also the chair of

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a senior group of building managers from around the metropolitan councils around New Zealand and we've agreed that at our last meeting to set up a sort of immediate response group of senior building managers that can go and help manage an event. So these won't be technical so much engineers, but they will be people that have good management knowledge and good understanding of buildings and can help manage. In terms of some of the key issues. I just thought of what John Hare said in turn, we do have to be careful that we don't restrict processes so much that we don't allow for innovation in terms of an event as from what I've seen in my experience that events evolve and we need to be, you know, really quick on our feet and be able to scale up or down according to the size of the event. I think there's a lot more we need to do in terms of education so that the public better understand the process and what their expectations may be. We need to provide an assessment process that provides a balance between risk and the need to get cities moving and people back into their homes, you know, so I think we need to be careful about just focusing on risk. I fully support the need for us to provide more training for engineers and building officials, and we need to look at the powers in terms of how we transition from a declared emergency to the recovery phase.

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**JUSTICE COOPER:**

Well without wanting to introduce the Royal Commission, most of you I think will be familiar that we've had earlier in our proceedings numerous hearings on individual buildings that failed causing death during the earthquakes and we have also had hearings which have confronted the important policy issues with which we're now confronted with respect to earthquake prone buildings. Now deaths are subjects on which we have reached some views and we will be reporting in due course. So that is, puts a kind of a barrier around what we should be discussing today and I think in what you've said by way of introductory remarks that's familiar with, for all of you, although I would just like to say that it's apparent to me, and I suspect my colleagues, that the better job we can do in respect of earthquake prone buildings, the easier the task should be when confronted with an earthquake in the future. There's a

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lot of things that could be done better and more effectively at leisure, rather than in response to a crisis and I think that's well understood. So returning then to the issues that we're looking for assistance on in this discussion, I would I think, I see some merit in starting with the big picture of the emergency has occurred, and our focus is on earthquakes, although we do have to have one eye on other potential disasters or what we're likely to end up recommending won't be effective. But given there is a major earthquake in an urban setting, the current legislative framework contemplates that there would be a declaration of national or local emergency, and from such a declaration a number of statutory powers then flow and a special definition

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is given from that point to rights and obligations of various times. Now the suggestion seems to be emerging that there should be some other tier below those two categories which might also be accompanied by special powers, whether they are the same or slightly lesser, I am not sure, but is there any merit in such an approach, I think it is in part a hindsight suggestion, hindsight is of course, it is a good thing. We need to say that, it is not a pejorative term, it is how we learn from the lessons that we've experienced but do people see merit in there being some further tier in the legislative framework which contemplates or which provides for damaging events that are not such as would justify calling a national, declaring a national or local emergency.

Mr Mitchell.

**MR MITCHELL:**

I think that it is – there is the need for such a, as you referred to, a lower tier, because I think certainly the reality from the Council's point of view has been that we've had and you use the phrase yesterday around 'damaging earthquake but not damaging enough to cause a declaration of a state of emergency' and the Council has activated its emergency operation centre five times. Two of those times there has been a declaration, three of them there have not and because, well the three that had not, at the time the control, the local controller reached the judgement in discussion with emergency services and also the Council's infrastructure teams that it did not warrant that person

recommending to the Mayor that there be a local declaration. But nevertheless there was the need if you like perceived at the time to activate the emergency operation centre to provide for better coordination but some of those activations like in December last year lasted around 24 hours and that was it, but I think in terms of – so from the Council's point of view and the issue would then come up and I was the controller on two of those occasions around, well what is the status of the triage process that we heard about yesterday? What is the legal status of it? How do we give effect to it? And Mr Brunsdon responded to you when you put that question to him around, well the Council has its day to day powers in the Building Act but I think as the Royal Commission had heard before now a lot of the current legal framework does not easily fit major disasters like this and this discussion around the triage documentation would be one of them. We find that it is a very good system but I think it needs to be for the future recognised in a statutory way. It has been done through one of the orders in Councils on a temporary basis with the red, yellow stickers and I think my suggestion would be that, and you would ask the question around, well what is the trigger and thinking about that overnight I think one possible trigger just for, as an idea to put on the table rather instead of a local declaration being initiated, maybe someone and in my view at the moment perhaps the Chief Executive of the territorial authority would have the legal power to declare that a part of the Building Act which contained in the future the triage system in a statutory context, comes into effect. Now the reason why I named the Chief Executive is one, it is a human being so there is no need for meetings to be called to get together. Secondly, in section 129 Parliament has already placed confidence in that position nationally to have what could be seen as quite extreme powers to have buildings demolished, outside of natural events and so there is an analogy there if you like from that point of view and which is also outside the formal civil defence framework from that perspective. At least is it there a way to get that process initiated, it may well be that it could be like you have another situation the power is there at least for a standard seven days, subject to extension or subject to a shortening time but I think there is a real need to have some structure in terms of that ability to carry that out.

**JUSTICE COOPER:**

However, if I may use the analogy you are describing the bullet and not the trigger because what would be the basis on which the CEO –

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**MR MITCHELL:**

Sorry – the trigger would have to be that there is – and thinking last night was around the use of the word emergency. Now I know there has been discussion that the current definition of a Civil Emergency Management Act isn't, it has its own issues but there would have to be some –

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**JUSTICE COOPER:**

Well does it?

15 **MR MITCHELL:**

Well it can be...

**JUSTICE COOPER:**

I looked at that definition of emergency and you are – I am not aware of what the issues are that you refer to but it means any happening, natural or otherwise, including various things without limitation right through to a war-like act that causes or may cause loss of life or injury or illness or distress in any way that endangers the safety of the public or property in New Zealand or any part of it and cannot be dealt with by emergency services or otherwise requires a significant and coordinated response.

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**MR MITCHELL:**

It's that last part I think because what as a controller you find is that is that the emergency services the advice will be they can deal with it from that perspective and it may be the trigger, to answer your question, is that the CEO believes the declaration is necessary to provide a significant and coordinated response under the Act. It will need to be some formal words like

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that clearly to exercise the power given the potential legal consequences that follow from it.

**JUSTICE COOPER:**

5 I mean it is a very comprehensive definition and appropriately so I would say because it would be really silly to define an emergency in a restrictive way I think. But the importance of the decisions to make a declaration or of the power that you are describing cannot be over emphasised because so much flows from it, in terms of rights and obligations. Mr Brunsdon you addressed  
10 this issue in a way didn't you in your evidence yesterday. Would you care to comment?

**MR BRUNSDON:**

I guess I believe I made the comment about the continuum of scale from  
15 where one building is shall we say compromised through to 10, through to 100, through to a thousand in a larger scale event and seeking to have an element of that continuum reflected whereas currently there is the uncertainty if it was only, you know the 10, a small number of buildings that were impacted but that required a concerted effort to support the emergency  
20 services firstly and then the local authority to assess and manage.

**JUSTICE COOPER:**

Mr Hamilton you must have a view on this?

25 **MR HAMILTON:**

Well it is slightly contrary perhaps to Mr Mitchell's. If the situation was such that you need – and this is the doctrine we try and explain to civil defence, emergency management groups, if the situation was such that you need the authorities that the Act provides for in a controller well then you should declare  
30 so that you can use those powers. I can understand the reluctance to declare when the situation may be at a lower level, quite small  
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perhaps, even just one building, one isolated situation and I think we do need to have some sort of provision for the assessment of that situation and what's going to be the follow-on actions and under what jurisdiction if you like.

5 **MR WOOD:**

What I would add is the desire that business-as-usual systems can be used as much as possible. We have put in our submission that we would like to see the Building Act strengthened to enable that so that the powers available to councils in the situation that Mr Mitchell described could be more easily  
10 used. I think I can say we recognise limitations in the current management of dangerous and insanitary buildings. So there is a gap between the provisions of the Building Act and the need for the Civil Defence Emergency Act provisions.

15 **JUSTICE COOPER:**

There's an issue which we have reached in those other hearings that I must tell you about where we've heard from councils about s 129 of the Building Act and potential limitations around that. Is that the kind of thing you're talking  
20 about?

**MR WOOD:**

It is the kind of thing and we have prepared two illustrations to make the point if that's of use to the Commission at this time.

25 **JUSTICE COOPER:**

Yes, yes.

**MR WOOD:**

And they may help informed discussion going forward. Are we able to see  
30 slide 5.

**JUSTICE COOPER:**

Have you got, does it have any other numbers that you can tell us about?

**MR WOOD:**

While it's coming up –

5 **JUSTICE COOPER:**

Well it may not be.

**MR WOOD:**

I have every expectation and faith in the Commission's, what my suggestion is  
10 though you may like to continue the discussion and it can pop up and be a  
background to what we're talking about.

**JUSTICE COOPER:**

Yes and come back to that. Mr Toner do you have anything you want to  
15 contribute to this discussion?

**MR TONER:**

I suppose in terms, the Building Act powers are quite limited in terms of what  
we can do in an emergen-, if it's not an emergency. The Dangerous and  
20 Insanitary Provisions say you have to give 10 days' notice which is not  
appropriate. The 129 provisions allow the Chief Executive to do something  
immediately and then that has to be confirmed later on in the Court, so it's all  
actually quite complicated and can often be quite time consuming and  
expensive from a Council perspective. So something that made that an easier  
25 process would be better. In terms of what Peter Mitchell said, I mean I don't  
have any personal experience in the sort of management that they've had to  
do so I can't really comment there.

**JUSTICE COOPER:**

30 What happened to the old Mayoral warrants that used to be used on  
occasions? Do you recall the power that used to be in the Local Government  
Act where the Mayor could effectively say "Take that building down".

**MR TONER:**

I think that's been replaced by the 129.

**JUSTICE COOPER:**

5 129 yeah, which has more procedure around it by the look of it.

**MR TONER:**

Yeah, yep. Mr Wood is this the slide you wanted to refer to?

10 **MR WOOD:**

That is the slide, Your Honour.

**JUSTICE COOPER:**

I'll just tell you what it is. It's GEN.MCDEM.0009.005 but we can call it slide 5.

15

**MR WOOD:**

Thank you Your Honour. This diagram is in the submission from our Ministry and it is illustrating there the current gap in the provisions of the Building Act to manage an emergency. So that's a state of emergency, whether  
20 it's local or national as greater Christchurch has experienced. You'll note the transition to recovery, which is another issue which I believe we'll be talking about today and the need illustrated there for special orders in Council. But if we could now go to the next slide. The suggestion is to increase the provisions in the Building Act, the trigger  
25 that you have made reference to enables that process of business-as-usual to continue with whatever extra provisions, requirements that managing the situation may require, that could be for a single building, a number of buildings, but none that require or overwhelm the resources of the Council and the emergency services, therefore, not necessarily  
30 an emergency needing the powers of the Civil Defence Emergency Management Act. However, if other factors require the coordinated

delivery of powers under the Civil Defence Emergency Management Act then that can go on in support of, as an umbrella, so that's the suggestion we have put into our submission and I am happy to have it up at this time as a background to the continued discussion.

5

**JUSTICE COOPER:**

Yes, well thank you for that. I suppose underlying whatever option might be fixed on is the question of liability isn't it? I mean once this declaration or whatever's sought is made that has implications for responsibility if things go wrong.

10

**MR WOOD:**

In the management of what we're addressing today, the management of buildings following earthquake and the application in New Zealand of the building safety evaluation guidelines it took several years to negotiate through to a solution where those volunteering were protected from liability.

15

**JUSTICE COOPER:**

Well that's one aspect of liability but another aspect presumably is the situation of some building owner who says well this action's been taken in respect of my building, it's unjustified, I'm going to sue. Exceeded your statutory powers.

20

**MR WOOD:**

That's correct. The proposal here would be to put provisions in the Building Act to address those matters.

25

**JUSTICE COOPER:**

Would they match equivalent provisions in the Civil Defence Emergency Management Act or would there be a migration of provisions from one Act to the other or is that too detailed a question?

5 **MR WOOD:**

My comment would be if that could be covered off, as I have said before, by business-as-usual processes so that there is understanding of the powers available to building officials in the case of territorial authorities without needing to go to something which is rarely exercised.

10 So even in the experience of Christchurch City Mr Mitchell has described this morning having five particular emergencies to seriously consider, only two of those were a state of emergency and the need to be able to manage those others better is evident. The Boxing Day earthquake for example.

15

**MR HARE:**

Just picking up on the point that Peter just ended with there, the Boxing Day earthquake was, I think, the example I keep going back to in respect of this where, picking on a couple of the points there, you asked  
20 about the trigger rather than the bullet and it seemed to me that that was the day that most illustrated the need to review the trigger very carefully. If I go back to the definition you've got there of the actual emergency that all seems quite appropriate and it was interesting to note Mr Mitchell's comments about the fact that the emergency services  
25 said yes they had it under control and it struck me that, as one of the people remaining in Christchurch on the day and running around after them, that even though there were aspects of it under control it was the communication and coordination of the event which was causing trouble and so it wasn't clear to people who were involved in building  
30 evaluations or just trying to make sense of it after the fact who was in

charge, what needed to be done, and whether the right actions had been taken and so I think, it may well be that because it was Boxing Day it was, therefore, not a good example. On the other hand it could  
1030

5 mean because it was Boxing Day it was a very good example because you've got to have the ability to respond to the emergency whenever it happens. And so I think it's a wider issue than just whether the emergency services are able to cope with what they perceive as the Acts requirements. It's about the wider community and everyone who's involved in some way being able to see  
10 what's going on and most importantly who's in charge and who's communicating.

**COMMISSIONER CARTER:**

15 Whilst that's a very good example and everybody involved in this event can appreciate when you talk about it, how those sort of complexities might have been better handled, we're also trying to define something that has a much wider application than the understanding of what you're describing. It may not be anywhere near as clear so in a sense trying to grapple with the level of authority and knowledge that would be needed to realise that the, what might  
20 need to be done in a management sense or organisational sense would exceed the first reactions that might occur when some major event has taken place. It also has to be thought about and whether the example gives a good enough basis on which to make a wider ranging decision or not is something that may be worth some thought.

25

**JUSTICE COOPER:**

The definition speaks of an event such as an earthquake, eruption et cetera, and then it describes it as one that causes or may cause loss of life or injury in any way, or in any way endangers the safety of the public. And then it says it  
30 cannot be dealt with by emergency services or otherwise requires a significant and co-ordinated response under this Act. What I think you're proposing here

is that you might have a situation that required a significant and co-ordinated response but which was not something which was life threatening?

**MR HARE:**

5 I think on the contrary, I think it was definitely life threatening if I look at the number of places where there were significant amounts of masonry dropped from buildings. In one case off the side of one building, through the roof of the adjacent restaurant which was about to be used.

10 **JUSTICE COOPER:**

Well if you say that, you've got an earthquake, it was life threatening and it required a co-ordinated response, then you're really saying, not that there's anything wrong with the framework but that the wrong decision was made on Boxing Day? You've just described an event that could justify the declaration  
15 of a local state of emergency. You see there's no use saying well the Act's no good if all you're saying is the wrong decisions been made under the Act.

**MR HARE:**

I think I was saying in that sense that yes the wrong decision was made, but I  
20 think the important thing there is that to identify the process which enables the right decisions to be made because I don't think it was made knowingly, I think it was made on the day and because of the circumstances of it being Boxing Day, therefore a lot of key people were out of town, there was a lot of pressure, I guess to keep the city moving because of being Boxing Day and  
25 so I think it was more about the process that was followed and perhaps being a little clearer on those procedures so that the event was recognised for what it was, perhaps better than it was on that day. I certainly don't see anything wrong with this as described as a trigger, I think that's perfectly good, but I think it's how that's enabled that's the issue.

30

**JUSTICE COOPER:**

All right, well are you saying that it should've been a local state of emergency on Boxing Day?

**MR HARE:**

It was certainly my feeling at the time that it would've been appropriate. It may not have lasted very long but certainly to enable some of the things to  
5 have happened that I think would've in the sense of areas which may have been more effectively cordoned off or dealt with, some of the traffic management, some of the people management around it. I did feel that that could've been handled a little better. I think a lot of people were again doing their best and we were lucky to get through it as we did.

10

**JUSTICE COOPER:**

Just trying to understand whether there's a gap here or whether it's just should've been another decision made. What do you say Mr Mitchell?

**MR MITCHELL:**

I think Sir that the issue about whether to issue a declaration, and I take Mr Hamilton's comment and I don't disagree in the sense that that's certainly what has been, you shouldn't be shy, or don't feel you need to be shy, but I think you also need to be, well in a Christchurch context because the  
20 legislation has been written and sort of the manual's been written around one disaster, one declaration and then life moved on. In a Christchurch context we are, you know, I've given five examples, two where there's declarations, three where there were not and there is I think a valid issue which is not necessarily addressed in the legislation because it doesn't contemplate what  
25 we're facing about the number of times you have declarations and the messages that sends around this planet which I think is a relevant factor from that point of view which is why, certainly from my perspective, having a, the ability and the common theme with all of the events has been the, a real focus has been on building evaluation which of course is the focus of this  
30 Royal Commission. Now I acknowledge there are other significant issues in September and February around damage to roads, sanitation, those sort of issues but in Boxing Day and in June last year and in December last year the primary focus if you like was around the building evaluation process. That

was where a lot of work was done and I think having the ability to have something that is short of a declaration of emergency, because it does, I accept you have all the powers then, but at the end of the day if you've got an event like, and I'll use December last year, there was no from memory  
5 significant issues around liquefaction in the east or there was certainly some that occurred, I know that, but it was around the building, the ability to manage the buildings within the CBD and that's where I think there is value in looking at should there be some lower level of declaration which just activates powers in the Building Act and nothing else? Now if the circumstances were such that  
10 there was a need for broader powers then clearly the declaration of a state of emergency is simply available, and that will overtake anything just focused on buildings alone.

**JUSTICE COOPER:**

15 Yes, well the CERA legislation and subordinate legislation made under the Act contains numerous powers which are now being exercised when there's no state of emergency, so there is a model there but on the other hand the acceptability of that situation probably reflects the fact that there was a national state of emergency doesn't it?

20

**MR MITCHELL:**

It does but I would suggest Sir that, and those CERA powers are day-to-day, they are what effectively the three councils in this part of Canterbury live with now for the next three and a half years or the life of CERA as it's left. But I  
25 think that's why a lot of those powers would be very useful to a territorial authority, eg, the DEE process, but there, and it goes back to your question at the start, what is the trigger for those to exercise the powers. I think you are suggesting, and I don't disagree that a number of those powers may not be appropriate on a BAU non-event basis but there needs to be some process  
30 whereby they can be activated and I'm suggesting that perhaps given – and I agree with Peter that incorporation of the Building Act would seem to be a logical place, and they alone can be activated should the need arise from a

building evaluation point of view, as distinct from a declaration of a state of emergency. It's just how you define what that trigger is.

1040

**JUSTICE COOPER:**

5 Mr Hamilton.

**MR HAMILTON:**

Sir if I may submit the trigger for a declaration is not primarily about building evaluation. It's about public safety and the need to look after the people in the  
10 community. As Dave Brunson described yesterday, if we were talking about the earthquake occurring in Fiordland there would be no need for a declaration because the chances were that there would be no people affected by it. So the Civil Defence Emergency –

15 **JUSTICE COOPER:**

No buildings to evaluate either of course.

**MR HAMILTON:**

True but no need to declare and the Civil Defence Emergency Management  
20 Act basically makes the provision for the declaration to be in essence a political decision because it is about the people in that jurisdiction and their lives and livelihoods as the focus rather than some of the other aspects which are important enablers for the community to get on with its life.

25 **JUSTICE COOPER:**

It also involves the expenditure of a significant amount of public money which is another reason for it being a political decision I imagine.

**MR HAMILTON:**

30 Absolutely, sure, yes.

**JUSTICE COOPER:**

You two are competing now. I'm not sure who had his arm up first. Yes. Mr Brunsdon.

**MR BRUNSDON:**

5 Your Honour if I can perhaps link the question of a trigger with your question around liability before in examining the circumstance – the need in that Boxing Day and other non-declared situations is for a concerted technical resource and the challenge of accessing that given the limited technical resource within Council. One of the operational concepts that was brought to  
10 bear in February, in the response to February, was that of warranting engineers outside of Council to act as Council personnel. Possibly Mr Mitchell and Mr McCarthy may wish to comment on whether that has adaptation or applicability in other events.

15 **JUSTICE COOPER:**

Yes so in this lesser than a local state of emergency scenario that we're contemplating would there be a need for supplementary resources do you think?

20 **MR MITCHELL:**

I would always say yes to that Sir. I think experience has shown us that the Council's in-house resources, if you like, get exhausted very quickly and, secondly, also I think it's critical that we have access to substantial resources in terms of the engineering fraternity to provide advice depending on the size  
25 of the event from that point of view. I think, and also my comments before around inclusion or provision of the building net I would see that they would encompass those other issues addressing the liability of the volunteers if you like, the volunteer engineers and also which encompasses warranting if that may be necessary and it links back to what we heard from Mr Lizundia  
30 yesterday around people having a certificate if you like that they can take part in such events so the process is integrated from that respect.

**JUSTICE COOPER:**

All right. Thank you. Mr Smith.

**MR SMITH:**

Yes Your Honour. I wonder just (inaudible 10:43:56) discussion whether  
5 there's merit in having a lower trigger under the Building Act which covers the  
liability and the rights to not to declare a state of emergency, it wouldn't be a  
power, but actually to deal with a damaging event which potentially affected  
public safety and then you can possibly even have that trigger approved by  
Ministry of Civil Defence and Works Management as a possible safeguard but  
10 it doesn't stop I wouldn't think the emergency management being declared as  
an emergency over the top of that if the circumstances justified it.

**JUSTICE COOPER:**

One issue that we discussed early on in our hearings when we had a number  
15 of people from GNS here and tried yesterday to resurrect but it wasn't really  
fair on the particular person who was here but where there is, if we could just  
shift our focus slightly back to states of emergency. Should there be some  
recognised, or formally recognised role for GNS do you think? We heard  
evidence that GNS had advised some parties in writing about what the  
20 situation was that they were confronting, likely to confront in the months  
ahead but I don't think anything in writing was given to the City Council as I  
recall it and there's quite a delicate situation no doubt where various issues  
need to be resolved and pressures may come on of various kinds, may come  
on anybody giving advice in such a situation but at the moment there doesn't  
25 seem to be any formal systemic system around that. Mr Hamilton – care to  
answer that question?

**MR HAMILTON:**

Sir to start with GNS under the National Emergency Management Plan is the  
30 principal advisor for the Earthquake Hazard and since that National Plan was  
written the National Hazard Research Platform has been created as a means  
to co-ordinate and manage research and the use of research funds and GNS

is, I'm not quite sure exactly what the terminology of this is, but in conjunction with NIWA are the two co-hosts of the National Research Hazards Platform.

**JUSTICE COOPER:**

5 Yes.

**MR HAMILTON:**

So I would submit that the role of GNS in providing advice to Civil Defence and Emergency Management on earthquakes is already established but I  
10 would also suggest that we need to probably improve the capacity and the arrangements for having a formal full-time earthquake advisory panel of experts which we already have in place for volcanoes and tsunamis.

**JUSTICE COOPER:**

15 That body for volcanoes, for example, would that meet following an event such as the recent eruption of Tongariro?

**MR HAMILTON:**

Yes Sir it does. So one of the first actions that takes place as soon as the  
20 sector is alerted to an emergency is that we will make sure that the advisory panel meets and then they go through their processes using their own expertise to provide advice to emergency management. In fact Dave Brunston's probably better placed to be able to describe the exact process than I am.

25

**JUSTICE COOPER:**

Yes.

**MR BRUNSDON:**

30 Simply adding to the concept that it provides the active linkage with the gathering of the technical data and advice on operational matters. It also provides a link with the public communication of the issues arising from the event.

**JUSTICE COOPER:**

Yes.

5 **MR BRUNSDON:**

I certainly pick up a point that Dr Gledhill made yesterday, the suggestion that a panel for operations such as this comprise the National advisors, the process of technical leaders on the day and the scientific advisors to firstly establish the scale and parameters of the operation, come back to the importance of having a scalable operation within established procedures but to provide ongoing monitoring of the operation as more technical information comes in and to provide key communication advice outwardly.

**JUSTICE COOPER:**

15 The National Emergency Management Plan is a statutory document under the Civil Defence and Emergency, sorry the Civil Defence Emergency Management Act.

1050

**MR HAMILTON:**

20 Yes Sir it is.

**JUSTICE COOPER:**

And is that periodically reviewed and renewed.

25 **MR HAMILTON:**

Yes Sir and it has, it is under review now in fact the review process started before the 22<sup>nd</sup> of February earthquake and has been then put on hold while we gather the lessons from the response to Christchurch to incorporate in the next version.

30

**JUSTICE COOPER:**

On the question of –

**COMMISSIONER CARTER:**

I am just trying to extract a view if there is one from anyone on the panel as to whether the local authorities in general, should they be given an authority to declare like this third tier of trigger, would benefit from referencing a small  
5 panel of experts that exist perhaps within the civil defence organisation or something before the CEO was authorised to declare the third level of management of the event. In other words would all local authorities feel as equipped as obviously Christchurch does now to think through the issues that might benefit from having this third level of management come into play. The  
10 authority should not be exercised lightly without recognition from people just what might be involved and I just wondered whether there is something needed that would reference back to an experienced group about the way this might operate in another local authority.

**15 MR HAMILTON:**

So if we go back to the principles of the civil defence and emergency management approach in New Zealand there are considerable responsibilities placed on local government, the Councils for elements of all four Rs. None of the risk reduction, none of the readiness and none of the response activities I  
20 would suggest can be undertaken without the information and the advice provided by the technical experts and Council's are free to pick up that technical advice from whoever they feel best suited. We promote the GNS and the plan promotes GNS as the advisors for earthquake issues but there are also obviously, other Councils use different organisations, different  
25 consultants to inform their risk reduction programme or their readiness programme and certainly the way that they may respond in an emergency whether it's declared or not. I'd be surprised if, well I'd – I'd be surprised if people didn't understand in the sector where GNS fits in that scheme of things and I think we've been extremely well served over a long period of time by the  
30 research and the advice that those sorts of organisations have provided to civil defence and emergency management.

**JUSTICE COOPER:**

Supposing then that we have a serious earthquake and there is a declaration of emergency and we want to use, as inevitably will be the case, volunteers, relying on the goodwill of the engineering community to put their shoulder into the building evaluation process. It is obviously desirable isn't it that the people  
5 volunteering be well trained if – well, is it realistic to envisage a volunteer force consisting of people who, or at least in large part have been trained, should that be a policy aim? Mr Brundson, sorry Mr Stannard?

**MR STANNARD:**

10 Yes I believe absolutely that should be the case. I think that is one of the – I guess it goes back to the diagram we had on introducing the powers into the Building Act and that certainly the MB position, supporting same as what Christchurch city is suggested and what MACDEM is suggesting. I think that does provide the ability for training at a national level and provide the ability of  
15 a tiered approach so that you've got an awareness training, the diagram that Mr Brunsdon showed yesterday, the sort of awareness, the more expertise and then the top level of, I am not sure the numbers, but maybe 10 or 12 nationally, people who can go in and manage the process for particularly for some of the smaller Councils.

20

**JUSTICE COOPER:**

Well can we have GEN.LIZ.0001.56. Is that the diagram that you are talking about?

25 **MR STANNARD:**

Absolutely yes.

**JUSTICE COOPER:**

30 So at the bottom of that pyramid, are all building officials and structural engineers and civil engineers. S

o this would be training that was coordinated at a local level by territorial local authorities do you think?

**MR STANNARD:**

No it would be through the local –

**JUSTICE COOPER:**

5 Yes.

**MR STANNARD:**

Yes, through the local, I mean we started the process prior to the Darfield event and there was limited training on the first module in a few of the  
10 locations, including Christchurch, Wellington, Dunedin and a little bit in Auckland I think. So yes, that is the sort of general level. I think then you need some of the more expertise for the sort of higher level evaluating buildings that need to be evaluated and then as I say the top level having a trained resource that can go in to help a local emergency manage the whole  
15 process.

**JUSTICE COOPER:**

So there'd be basic training, advance training and almost like the people who are going to run the show?

20

**MR STANNARD:**

Yes that is right.

**JUSTICE COOPER:**

25 At least in terms of expert input, yes. Now, getting back to the bottom tier again. That would, insofar as it involved Council officers they would be paid wouldn't they? When they are being trained they would be on the local payroll I'd imagine?

30 **MR STANNARD:**

Yes we would assume that would be the case.

**JUSTICE COOPER:**

And whether it involved structural engineers and civil engineers, what would be the position then? Do they do it for free or what?

**MR STANNARD:**

5 I guess that has got to be worked through. My view I guess would be that it's like continuing professional development. I would have thought that most firms supporting their engineers would be happy to pay the time but that the training, they shouldn't actually have to pay to go and undertake the training so the training would be provided at a –

10

**JUSTICE COOPER:**

The training would be provided but the individuals concerned be paid by their employers. Is that the way it would work?

15 **MR STANNARD:**

Yes.

**JUSTICE COOPER:**

Is there an analogy here to the regime that applies to the territorial forces which I think is similar. Does anybody know whether I am right on that? Mr Hamilton you should know?

20

**MR HAMILTON:**

Your Honour no I can't.

25

**JUSTICE COOPER:**

The law used to be as I recall it, that if one volunteered to serve in the territorial forces or in the naval reserve, every so often one would go off on manoeuvres for a weekend or a week and your employer paid you. Time spent doing that was treated as time at work.

30

**MR HAMILTON:**

I think that is right Sir, not – as opposed to taking annual leave to go and do the training.

**JUSTICE COOPER:**

5 Yes, so, but also in terms of the wage coming in. So why shouldn't we adopt similar process here Mr Hare? You know why? I'm talking to you wearing another hat now.

1100

**MR HARE:**

10 No I see no reason why not. I think the burden then falls a little more heavily on the smaller consultancies who might have very few staff and would, therefore, see that as a potentially heavy imposition but it's otherwise I see that as workable.

15 **JUSTICE COOPER:**

Well what do you think Mr Smith?

**MR SMITH:**

20 I would support it. I think that the engineering profession has always seen public good deed but I do think it would need to be respectful of the time commitment, in other words it shouldn't be made to drag out any more than necessary. It should be a fairly concise exercise.

**JUSTICE COOPER:**

25 Well we're talking about this introductory awareness level. I have no idea how much time might be involved but I would have thought probably a couple of days that you're talking about and you'd refresh it every so often.

**MR HARE:**

30 Every five years or something like that.

**JUSTICE COOPER:**

Yes, so that at any given period of time you could rely on a base stratum of knowledge about how to go about the system and as the system was changed and improved well people at their refresher courses would hear about it. Does any of that seem far fetched?

5

**MR MCCARTHY:**

If I might add that it seems to me that those same engineers would be able to offer an increased level of service to their clients because in an emergency they would then perhaps be warranted in some way or recognised as being able to change the placard status as they do their work and, indeed, that's what happened in Christchurch that the CPEng engineers were able to, because of the knowledge they had, were able to change the status of buildings and undertake that work quickly on behalf of their clients. So I think the engineers saw that having that knowledge and training as being quite an advantage to them.

10  
15

**JUSTICE COOPER:**

Mr Toner what do you think about this part of the discussion?

20 **MR TONER:**

In terms of the diagram it's very much I think how we would envisage it happening at Wellington and, in fact, it's really what we've actually done in Wellington. We've trained all our building officials at the lower level and some of the senior people like myself have had some more advanced training and I talked earlier in my introduction about the metropolitan managers that had agreed that there needed to be a group that could immediately respond to help manage an emergency and I see that would be in that red group, it would only be a very small group, but they need to work in conjunction with engineers. In terms of Council I think we would see this very much as continuing professional development for our staff which would fit into our training budget and would be something that we would want to do.

25  
30

**JUSTICE COOPER:**

And presumably you would simply extend that to volunteer engineers who might be coming along for free.

**MR TONER:**

- 5 When we provided the training in Wellington we asked the engineers that were contracted to us if they wanted to send any of their staff, which they did, and we didn't charge them anything for that.

**JUSTICE COOPER:**

- 10 Mmm, the red, the tip of the triangle, as I've understood it, Mr Brundson, is envisaged to be a group of people, perhaps like yourself, who might be regarded as the people who were going to go anywhere given a serious event. And who would be responsible for resourcing and administering that group? Would that be the Ministry of Civil Defence and Emergency  
15 Management?

**MR BRUNDSON:**

- Your Honour there was a linkage prior to these events that we envisaged that the National Reference Group that was providing oversight and, to a degree,  
20 governance on the technical guidelines with representation from various engineering groups, MACDEM and MB as well as key Council building control leaders would perhaps be the nucleus of those who would go and assist as indeed turned out to be the case in Darfield event and in February. So the linkage there is with the management of the process which probably orients  
25 again more towards the building and housing group. If I could just make a further comment, there is a distinction between the lower level and the mid level of that chart that the lower introductory or awareness level training is just that, all part of general continuing professional development for both building officials and engineers. It is that middle row of senior officials and chartered  
30 engineers that would be the operational implementers. So the middle group are the ones, as the words suggest, that need to have refresher skills and a degree of operational preparedness, the likes of the SAP programme in California. The bottom level is the building block of the future capability and

there is an analogy this capability pyramid is essentially the same for urban search and rescue engineer development and operations where you are trying to paint the broader picture for a wide range of engineers such that future responders can be trained and at the peak of that engineering capability are those that are contracted and engaged as engineering specialists with the Fire Service.

**JUSTICE COOPER:**

So the middle tier are the ones who would actually be on the ground inspecting buildings. Is that what you're saying?

**MR BRUNSDON:**

Primarily, again because they have the chartered professional engineer status that we, you know, has come out of these events as being an important benchmark.

**JUSTICE COOPER:**

Well, yeah, I have the impression there weren't enough, there weren't sufficient numbers of such people after February.

**MR BRUNSDON:**

They took a degree of mobilisation but they were able to be mobilised.

**JUSTICE COOPER:**

What do you say to that Mr Mitchell?

**MR MITCHELL:**

I'm unaware of any issues which then involved the resources from that point of view.

**MR MCCARTHY:**

I would say that we worked with the available resources. It would have been good to have some more CPEng engineers but so we weren't able to fully

blanket the city and do all of the inspections we would have liked to but we certainly had a lot of help and I think it would have been something in the order of 200 or 300 engineers volunteered so that was a significant contribution.

5

**JUSTICE COOPER:**

Well there's no doubt about that but after September we did have evidence of cases where there weren't enough CPEng qualified people available for the work didn't we?

10

**MR MCCARTHY:**

There were occasions where we were struggling with the number of CPEng engineers, you're correct. We were able to mobilise I think a maximum of around about 25 teams which included a CPEng engineer is my recollection.

15

**JUSTICE COOPER:**

There were, we did have cases where there weren't enough to go round, that's all.

20

**MR BRUNSDON:**

That's right. Initially and until the efforts of IPENZ were brought to bear to mobilise from around the country in those following days.

**MR WOOD:**

25

I would like to just add some comments on the volunteer aspect but immediately from what Mr Brunsdon has just said not only were there engineers but there were also several hundred building officials from around New Zealand and there was another group of building professionals, another element of building professionals which we did not utilise and that were members of the New Zealand Institute of Architects. That matter is being addressed. We've been having discussions with them because architects, by the nature of their work, do have knowledge of elements of buildings of some scales. This is where I'm wanting to add comment on volunteers. We were,

30

New Zealand has been in the early stages, you heard yesterday, of evolving a training and education programme for people to respond to what we're talking  
1110

of. We had volunteers, and I believe you may have heard evidence of  
5 volunteers who perhaps were not so well equipped to work in the environment they found themselves in. I would personally not criticise them for being found in that situation but a recommendation in my mind is the need for New Zealand to improve the management of volunteers in the environment we're just describing. You also made an earlier reference to whether they're paid or  
10 not. Mr Mitchell and Mr McCarthy in particular have had the experience of having to manage building inspections repeatedly. I believe there is that public good effort that volunteers do leap up at times of need but when it repeats and repeats fatigue starts to set in, in all sorts of ways. So we do need to have an environment where we can have a big enough pool to cope  
15 with those situations. Although we think the Canterbury earthquakes are somewhat unique we heard Mr Gledhill yesterday suggest maybe not. How to maintain the expertise, retain it and expect it to perform at all times including, for example, during public holidays like Boxing Day, to come away from family commitments at times of need and in my mind they do have to be financially  
20 rewarded for that commitment in terms of something like a retainer. It is possible Mr Brunsdon might have some comment from experiences in another (inaudible 11:12:30) date.

**MR BRUNSDON:**

25 Your Honour I made the reference yesterday in the, certain lifeline utilities having priority response agreements or standing contracts with appropriate consultancies to match their networks and that to directly undertake building evaluation following the likes of earthquake events without needing to be called out and on the basis of having done appropriate prior investigation and  
30 analysis pre-event of those buildings to understand how they would perform and that is an activity that has been encouraged but needs greater take-up.

**JUSTICE COOPER:**

Yes I suppose in a serious disaster, although one wouldn't want to take it for granted, it's likely that people will continue to volunteer if they can but if we're going to train them and optimise performance which requires regular commitment of time when there isn't a disaster that's a situation where, that's  
5 the situation I was thinking of that there should be no doubt that people putting that commitment in would just be paid as if they were at work.

**MR WOOD:**

That has operated and I've made reference in my introduction to the Learning  
10 from Earthquakes programme when teams get sent from New Zealand –

**JUSTICE COOPER:**

Yes.

15 **MR WOOD:**

- and it's a mixture of engineers, geologists et cetera and even emergency managers. We also do try to send politicians and, yes, they are being paid by the employer in general. There is a point I would definitely like the Commission to note. If the organisation, the employer, is large, that's not a  
20 problem and it can be of benefit to the employer that their staff are getting relevant experience whether it's in a real event, responding to Christchurch for example, or seeing other situations, the Learning from Earthquakes programme or exercising because there is a question, I suggest a challenge, to maintain interest of such people through periods with no events and if they  
25 are engaged then under the Civil Defence Emergency Management National Exercise Programme there are opportunities and we're looking forward to developing those further, with realistic scenarios which will exercise all responders, not necessarily all at the same time, this already has been going on in New Zealand. The particular point to do with employers paying that I do  
30 want you to note is for those situations of very small consultancies, possibly just a single person. If they volunteer, and some have, they have no revenue stream. We have experienced that. If they are really good then I would aspire

that they be in that red triangle and that they are paid a retainer or compensated for the time that they give in that public good exercise.

**JUSTICE COOPER:**

5 Yes right. Ms Newman arising out of your experience is there anything you'd like to reflect on in the discussion over the last quarter of an hour or so? No? Thank you. Well then another issue that I'd like just to spend a little time on involves you again Mr Wood, I'm sorry about that, but this idea of geospatial information and information management, and this has been touched on I  
10 think by you Mr Brunsdon as well yesterday. I think, we, it seems to me desirable if there was some forward thinking about how street addresses and building and land information is managed and recorded so that given a disaster situation there is not the confusion that we see in Christchurch about what property, what the address of properties is, how many tenancies there  
15 are, how many entrances to individual parts of buildings that are separately owned, all that sort of information which gets, it's really the database about how land is held. What's the thinking, is that part of the issue that you were addressing in your opening comments?

20 **MR WOOD:**

Yes Your Honour. It's an area I have had long experience in.

**JUSTICE COOPER:**

Yes.

25

**MR WOOD:**

And we observed for greater Christchurch the challenges of information to inform the process, the emergency management. So yesterday we did hear of the value of the reconnaissance surveys, the level 1 rapid assessments, to  
30 inform emergency managers who have to make decisions on the basis of the information available. We refer to that as the situational awareness. In the case of the particular experiences of Christchurch, and the situation in Christchurch is by no means unique in New Zealand. There is not clear

definition of land and buildings and addresses and those three elements have been now recognised as independent elements needing separate management and identification. I would note the New Zealand Society of  
1120

- 5 Earthquake Engineering submission for this hearing does address this. I cannot quote the section off the top of my head, the numbers. So the details are there. There is a variety of work occurring and in particular post 22<sup>nd</sup> of February CERA has been leading improving working with Christchurch City in particular, but also with Land Information New Zealand. There is also broader  
10 implications of what we're describing. One of those is the needs of the Electoral Act, so Land Information New Zealand has a responsibility, and Land Information New Zealand is taking new steps in this area.

**JUSTICE COOPER:**

- 15 Does anybody else wish to comment on that?

**MR SEWELL:**

(inaudible 11:21:05) they missed a really important part and that is who's in it.

20 **JUSTICE COOPER:**

I'm sorry, could you start again?

**MR SEWELL:**

- Sorry, "Land", "Buildings", "Addresses" were the three headings. You've  
25 missed a key part which is who's in the building and the relationship between the owner and the occupiers because there's dysfunction occurring in there when you try to check databases when you're looking for things in the city.

**MR WOOD:**

- 30 I do agree with that observation. When I said "buildings", buildings have a number of attributes including their function, their status, what they're used for, who is in them, those are very important and the fundamental thing all the time which I did not mention of course is public safety, owners, occupiers and

those public who are going into buildings, in and out of buildings. Maybe just to sort of conclude the comment of the need for improvement throughout New Zealand, there are some initiatives and it's not appropriate for me to say too much on a new initiative coming from MBIE. Would you like to comment  
5 or would you like me to introduce it?

**MR STANNARD:**

No I'm happy for you to say, to go ahead, yeah there's certainly an initiative that the MBIE is working with LINZ and others to, to document all of the, it's  
10 particularly related to an online consenting capability, so that when building consent applications are being made it can provide the geospatial information and provide the information for application to, for a building consent. But there is much, if it's open sourced and there's a lot of opportunities for it to be also used in this sphere, and probably for other purposes as well.

15

**JUSTICE COOPER:**

Any other comments, yes Mr McCarthy first?

**MR MCCARTHY:**

20 From a Council point of view we are incorporating mobile technology into our delivery of service at the moment, so see this as a key feature of future responses to emergencies. This will give us a GPS co-ordinate link to our own GIS system, WebMap system we call it, so we're looking at that and we'll have that capability within the next six months. We're also working on  
25 incorporating all of the information that CERA is collecting about the profiling of buildings through the DEE process onto our property records and putting that in a simplified form so that when a response unit goes out that they can actually pull that information into their mobile technology. So that's, that's not unique to Christchurch but it's certainly towards a, we're towards the forefront.  
30 I know a lot of the other metro councils are actually working along that path as well, Auckland, Wellington and some of the other major metros, so I think that's quite an exciting innovation and will help in the future.

**JUSTICE COOPER:**

Mr Sewell?

**MR SEWELL:**

5 The Property Council sees a significant concern in New Zealand that without a  
national database which we do not have of property which clearly shows what  
their seismic or structural standard is, what their use and occupation is, that  
there is a massive gap which is required to be filled for the government to be  
able to tackle policy issues around these matters and we have that right now  
10 with the seismic and the fears that are being voiced about what will come out  
of this room here and how it will be acted on. We are trying to work on things  
at the moment and I just cannot understand how they'll ever make a decision  
without the data which is pretty basically needed.

**15 JUSTICE COOPER:**

Comment on that from anyone?

**MR WOOD:**

If I could add to the picture, you do have a submission from a  
20 Mr Brian Andersen which illustrates the problem very well. It refers to  
Christchurch City Council records and it refers to property and address  
information available from a private company. The challenge is the  
public/private partnership. There are several private companies who provide  
that service and there can be challenges that the information provided is not  
25 all the same, so I would take the comment of the need and I would endorse  
the need for a national authenticated, maintained, discoverable, these are  
words in the national geospatial strategy. Not a multitude of different. That's  
not to displace private initiatives and the ability for private companies to add  
value to such core data. Currently the responsibility for that core data lies with  
30 territorial authorities.

**HEARING ADJOURNS: 11.28 AM**

**HEARING RESUMES: 11.48 AM**

**JUSTICE COOPER:**

5 Just before we move on could I ask Mr Hamilton probably national, a state of  
national emergency or a state of local emergency is a matter for the Minister  
of Civil Defence to declare, is that right?

**MR HAMILTON:**

10 Yes sir, that's correct, normally on the advice from me as the Director of Civil  
Defence.

**JUSTICE COOPER:**

15 Now there doesn't seem to be any statutory compulsion on you or the Minister  
to consult with the local Council about that matter, is that right?

**MR HAMILTON:**

That is correct interpretation, sir, yes.

**MR MITCHELL:**

20 Sorry, a local emergency is declared by the Mayor of the district. National  
declaration is the Minister and Mr Hamilton.

**JUSTICE COOPER:**

Is that so?

25

**MR HAMILTON:**

Yes.

**MR MITCHELL:**

30 Yes.

**JUSTICE COOPER:**

Oh state of local emergency.

**MR MITCHELL:**

Yeah.

5 **JUSTICE COOPER:**

What's the difference theoretically between a state of local emergency, well was in February a state of national emergency declared in Canterbury?

**MR HAMILTON:**

10 Yes sir.

**JUSTICE COOPER:**

So it's a local event but it is of such significance that it results in a declaration of national emergency.

15

**MR HAMILTON:**

So there are three levels at which a declaration can be managed. So for the smaller contained events we would expect the local authority to declare and we would expect them to be able to draw on all the assets and resources  
20 which are available within that jurisdiction to manage the event. If the event was more widespread covering two or three, whatever the judgment is as to how many Council's communities might be affected, there is provision to have a group wide declaration, which is basically the regional setting. If the event is of such magnitude/scale that national resources may need to be deployed to  
25 effect the response, that there may be the requirement for international assistance, that there is widespread public interest and the need to assure the public well then the option is for the state of national emergency to be declared by the Minister. You could read I think the Act to suggest that that could be made, that declaration at a national level could be made unilaterally.  
30 In practice I, in this case, certainly it was not the case. There were conversations between ministers and the Prime Minister and the Mayor before that situation was taken on.

**JUSTICE COOPER:**

That's a matter of sort of common sense and reality but it's not a matter of legal requirement and there's also power though, isn't there, for the Minister to form the view that a local state of emergency or a state of local emergency should have been declared and for the Minister to do it him or herself under s 69, is that right?

**MR HAMILTON:**

10 Correct. So, my understanding is that that provision is there and that if the situation was deteriorating rapidly for example and it was felt by the Minister that the local authority was not doing enough then the Minister would have the ability to make the declaration on behalf of.

**15 JUSTICE COOPER:**

It's not quite couched in those terms. He or she makes the declaration.

**MR HAMILTON:**

20 But the difference, Your Honour, would be that in that case the local authority would still be managing the response as opposed to the case of the national declaration where the responsibility for coordinating and controlling the response is held by the National Controller.

**JUSTICE COOPER:**

25 Yes well if the option of having a third tier was chosen it could just sit under s 68 power to declare a state of local emergency and be again a declaration which could be made and have effect locally.

**MR HAMILTON:**

30 Your Honour I think that's an option but I'm not sure that that is the option that we're discussing here per se about a declaration. I think what we're suggesting here is that there may be an opportunity to have some sort of

authority in the Building Act which has the same effect but without the need for a declaration per se.

**JUSTICE COOPER:**

5 Well it may be just a question of terminology but there would have to be some formality, some formal process that was gone through so that the new or the powers that exist which were now going to be available to be applied, so that it was clear that that situation had arisen and so the necessary authority was activated, whether you call it a declaration or something else, it's just a label,  
10 but landowners would also be faced then, land and building owners would then be faced with restrictions on their rights which had not applied up to that point in time. So there'd have to be clarity about that.

**MR HAMILTON:**

15 Yes.

**JUSTICE COOPER:**

Now for something different. Moving onto the placarding system. I'd just like to ask people what their views are. I don't think there's any desire on our part  
20 to depart from the rapid assessment process. I think it turns out, it is really a question of how that can be improved and also whether it needs to be supplemented. The issue is whether it's, there can be sole reliance on it but in terms of how the actual placarding system works there is scope for improvement. That's your view Mr Brunson is it?

25

**MR BRUNSDON:**

Yes there's things that need to be done at the overarching level around the framework which we've discussed as well as tactical, if you like, operational detail that needs to be worked through but the linkage is with the criteria for  
30 either continued or re-occupancy that would follow varying levels of earthquake event that need to be discussed and formulated as part of the transition from placarding as a Council operation, if you like, Council-led operation back to the owner and occupier responsibilities.

**JUSTICE COOPER:**

Yes well but in sequence, looking at the actual placarding itself, this green/yellow/red rainbow that we currently have is it possible to come up with something better than that?

**MR BRUNSDON:**

Certainly the colour aspects, Your Honour, that has been, there have been suggestions as to whether the colour green sends the wrong signal for occupiers and owners rather than a more cautionary signal but based on a rapid assessment. Essentially all that has been established is that there is no visible damage that would indicate local or overall collapse potential but again

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it is all in the conveyance of the risk of re-occupancy that follows from an inspected placard that needs to be, with clarity, needs to be provided both in terms of the occupants and for the engineers and building officials undertaking the assessments.

**JUSTICE COOPER:**

Mr Smith?

**MR SMITH:**

I certainly agree that green is not a desirable – I think it does signal the wrong message to the public. The real issue is not – the assessment process is there to establish damage but it is a small part of a total that needs to be considered. Once the hazard has been identified and I think we've heard mechanisms where that can be achieved with better guidance to those that are in the field doing the assessments. I think we then need to have a flexible range of responses for occupancy and if that is a small event that may simply be a level one. If it is a significant event it may mean a level one and two to do the earthquake prone or look at some level of strengthen as a minimum requirement for occupancy. So I think we need that flexibility within the scheme to assess just what the risk is to the public and to provide a range of

tools to the – or those controlling the event to provide the public safety and to determine appropriate rules for occupancy.

**JUSTICE COOPER:**

5 Mr Hare?

**MR HARE:**

I am not sure that I have too much to add to that. I have a little concern in there that whether we call the placards white or green or safe or inspected, it  
10 sort of all comes down to the same thing in the eyes of the public unless there is a very clear communication education programme around that to make sure they understand what it means. I think people gravitate towards terms that they can understand readily like safe even though it means different things to different people and so it is important we give that consideration. I think  
15 Mr Smith is right that we need to have an ability to respond according to the scale and the nature of the event. Much of what we have been doing for Christchurch is being dictated by the fact that it was such a large earthquake and therefore the following inspections that have had to be done around the city are based on the fact that we've seen damage all over the city and  
20 therefore have reason to believe it could happen anywhere given the nature of high levels of ground shaking and unknown vulnerabilities in buildings. If we had better knowledge of our building stock then we would have more confidence to be able to write in or write out buildings from that process.

25 **JUSTICE COOPER:**

How is that knowledge to be acquired, other than in a kind of national building survey?

**MR HARE:**

30 I don't think there is any other way of doing it. It is a question I suppose we have to balance the tremendous cost and effort required to achieve that against the potential benefit should we ever have another event like this in another part of the country. It is quite clear that if we had a better

understanding of our building stock from before the earthquake then we'd have a much better grasp of whether we needed to go back and do the level of work we are doing or whether we'd have cases where we wouldn't need to. But I – there is no easy way of doing that.

5

**JUSTICE COOPER:**

In terms of the rapid assessment process, one of the lessons that might be learned from the Canterbury earthquake sequence is that an assumption that the first earthquake is the most damaging where it has occurred near a major population base. It may not really be a valid underpinning of the rapid assessment process. What do you say to that?

10

**MR HARE:**

I think you've got to be very careful to balance the sort of, what might happen against what will happen. If you were to look for example at Christchurch as it was leading up to February 22<sup>nd</sup>, my understanding is that there was knowledge in some quarters at least that such an event could happen but the assessed probability of that if I remember rightly was around about 20% for the region on an annual basis and therefore down to around about five or 6% for the city. That being the case, if we had formed our, if we had reacted by, for example closing buildings in the city until they had detailed assessment, we'd have also had therefore 95% chance that that wouldn't have happened and therefore we'd have had buildings close down in the interim with huge disruption to the city so I think we have to be very careful about this balancing of risk in this case against certainty. The risk of a larger event occurring which is the unlikely outcome versus the certainty of having a closed down city, massive disruption to the public and all that goes with it. I think therefore I'd be, I certainly believe that the overall process that was followed was the correct one but that there would be certainly a lot of room for re-evaluating our response particularly in respect of the most at risk buildings which we could, you know, could perhaps have been identified.

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25

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**COMMISSIONER FENWICK:**

Can I just enquire a little bit more about that 'cos that was something we were trying to talk about a bit yesterday. If you have a major fault, Hope Fault, Alpine Fault or a fault in the mountain region then your aftershocks presumably are going to be in that general region. Now would it be then safe  
5 to assume that the shocks are going to come in roughly the same orientation and that perhaps usually the aftershocks are of a lesser magnitude as they were in the Christchurch earthquakes but because they are still some distance away the intensity of shaking would probably not be as high, so is there a different process you should be working through when you get the normal  
10 earthquake that we expect, which is a distant earthquake, affecting the city rather than something which is perhaps local where as we have observed in this case you had one fault then another fault which gave a very different direction of loading but because that fault happened to be closer to the city it gave much more intense shaking, so is there some sort of thing we can take  
15 from this and just make people aware there is a difference between local events and distant events?

**MR HARE:**

Yes I'd have to agree that definitely we have worked a lot from the process of  
20 observing what has happened which we can take forward to in the future, particularly in that particular sense. It is probably more a matter of therefore the people who are dealing with it being aware of what may happen and aware of that potential. I am still trying to put that back in the context though of the building evaluation, the placarding and subsequent activities. One of  
25 the points I noted yesterday was that where there was a list I think of six earthquakes which were held up as being, that had followed that similar pattern, there was a range of, on the same day to approximately eight years later I think before the larger event came along and the trouble is if you are not careful you find yourself waiting for the larger event for however long it  
30 takes and I think that part of the recovery process has to be to try and recover as quickly as you can from what has happened without necessarily getting too over concerned about what may happen and I think there is that balance where I certainly look at it and say, as we have discussed in a few places that

if you had a particular at risk sector of the building stock such as the unreinforced masonry buildings knowing that they would be the most vulnerable in the case of such an event, that the larger event following then you might take a different action in respect of those buildings than you would take in respect of other buildings. I think that speaks therefore into building the knowledge of that building stock and even better of having identified them before time, doing something to upgrade them, so take them off the high hazard risk, register.

10 **JUSTICE COOPER:**

So supposing for the sake of this discussion that there was some definite timeframe set around or set for the seismic strengthening of unreinforced masonry building and that category of building was dealt with, you're happy with what I might describe as damage-based assessments being applied after a significant earthquake to the balance of the buildings.

1208

**MR HARE:**

I don't think you have much practical alternative. My view of having looked at it from both sides of the fence on the detailed engineering evaluations is that the quality of the evaluations and the timeliness of the evaluations is not such that you could get through that process fast enough to be able to use that to determine occupancy. Only in a very small town maybe but certainly for a large city centre I think you just haven't got the time and the resource to be able to work through that level of detailed evaluation, apart from, maybe, the very high risk buildings which have been identified.

**JUSTICE COOPER:**

Even if you carried out what we referred to earlier as a building survey nationwide.

**MR HARE:**

Sorry, in that context yes you'd have a lot more certainty and, therefore, be able to do ideally to buildings having already identified the vulnerabilities and see what the impact on those vulnerabilities might be and if there was no impact then you would have no concern. It is still damage-based but it's  
5 damage-based with a much better idea of where you're starting from.

**COMMISSIONER FENWICK:**

So would you be able to establish the type of building you've got and it's vulnerability from a desktop study rather than a detailed engineering  
10 assessment?

**MR HARE:**

Not easily, no, the trouble there is that you can view it in a fairly generic sense if you're looking, for example, at a category of buildings such as unreinforced  
15 masonry buildings which we know. However, once you go beyond that category of buildings I think it's a lot more specific and so what I think we've seen through the evaluation process is that it's not the capacity of the buildings which is the primary determining factor in their performance, it's the linkages between the vulnerabilities. If you get too many vulnerabilities in a  
20 building, which might be, for example, the non-ductile columns and/or whatever supporting structure – so a combination of the increased displacements as well as the vulnerability – then those ones should be regarded as high risk buildings but you need to do a lot of investigation to identify those.

25

**COMMISSIONER FENWICK:**

You can't just look at the building and see the columns are not confined and look at the joints and see there's no joint zone reinforcement or the details and see there's no load track through those details, you don't think you can do that  
30 for a desktop study?

**MR HARE:**

In many cases you will be able to, not all. I mean the more of that you can do the better off you'll be at the upper end of the scale I think you have to do a certain amount of analysis and I think, though, you've already got to identify the at risk categories of which you need to do that amount of work and that's a  
5 very good example of the type of building where it's more of a qualitative review to identify that you've got those issues. At the other end of the scale there'll be those where, for example, if you're concerned with stair seatings you've really got to have an idea of what the displacement might be. So the more you bore into it I think the more analytical work you'll find you need to do  
10 but also you'll get at the point of diminishing returns.

**JUSTICE COOPER:**

Mr Smith do you want to say anything more on this issue?

15 **MR SMITH:**

I think there's a danger we are focussing on a rather unique event, where the second or the February event resulted in stronger shaking. I think, in reality, the most probable scenario elsewhere in New Zealand will be the first event will be the one that is damaging and which causes loss of life. So to my mind  
20 we need to focus on what we can do now, given it's a low probability event. We have got time, hopefully, before the next significant earthquake to do such things as removing parapets, securing façades, possibly moving forward on the earthquake-prone building programme but I mean otherwise I agree with John, I mean damage has to be a really important measure towards  
25 occupancy. I don't think it's the only one but I think we have to be guided by that and, at the end of the day, there are risks and society has to live with those risks unless we're gonna close down the whole city. So it's a very fine balance and it's a very difficult one I think.

30 **MR HARE:**

There's a slide yesterday from Dave Brunsdon's presentation which might be quite useful here which was GEN.BRU.0001.40 which I think illustrates some of the points there which we've seen quite a lot of buildings, I think, through

the evaluation process which would be the category A where they might have been assessed as having a very low capacity, have been assessed as having a very low capacity but have essentially been undamaged through the earthquakes. We're not, if we chose to go down the path of the capacity related assessment process we run the risk, therefore, of pinging those buildings where, in reality, they may well benefit from being strengthened at some point. Clearly there's not necessarily the same urgency. Whereas in the other line B there we've seen a number of cases where buildings are suffering progressive damage through even some of the quite small aftershocks once it's hit the original triggering point where the damage has been done begun to occur. Now part of that relates to the disproportionate damage sort of discussion that Bret Lizundia referred to yesterday which, I think, is something we should be taking into account rolling forward. It wouldn't have been relevant to Canterbury because of the scale of the event but even some buildings which have been assessed as having quite high capacity or would have been assessed as having quite high capacity early before the event once they hit that sort of degenerating line if you like then those are the ones I think we should be most concerned about.

20 **JUSTICE COOPER:**

This, what does line B, line B, which steps down and is successfully losing capacity, what's behind that? Are those buildings of a particular kind? Can you identify some common characteristics?

25 **MR HARE:**

Again, very difficult because of the number of the different circumstances and the range of aspects you have to consider. So, I mean, the same building for example in different parts of the city would suffer differently simply by virtue of the soil underneath it. There's an area, for example, to the west of the Avon round Civic offices and the Arts Centre which has got pretty good ground under it and I think buildings, in general, in that part of the city did better than the same building would have sort of another 500 metres to the east on the other side of the river or further across again. And so there's the ground,

there's the particular configurational aspects of the building whereby a regular building, of course, will always fare better than an irregular building. There are a whole host of factors and so much as Bret Lizundia –

5 **JUSTICE COOPER:**

Yes, you've just identified the things though that we would know now about buildings, wouldn't we. We wouldn't need –

**MR HARE:**

10 Yes and no.

**JUSTICE COOPER:**

An earthquake to identify that group.

15 **MR HARE:**

Some of it I agree but some, I mean, two buildings can be quite different in the sense of their regularity and still comply fully with the Building Code or the Building Code at the time of design. A lot of the things about the ground shaking are very specific to very small areas and not even necessarily  
20 identifiable from the soil profile at each of those individual points and so a lot of it comes down to relatively small changes that we might be able to see but not recognise the impact of and yet which have a very significant effect when we have the actual earthquake and, again, whether one earthquake affects it it's one question, whether the next question will affect it differently we never  
25 quite know. It's not just about directionality I think it's a lot of other factors as well.

**COMMISSIONER FENWICK:**

Would you have picked those up in a detailed engineering assessment or  
30 would you pick up most of those in a desktop study looking at the details and the flow of forces through the member and seeing whether there's a case where, yes, that particular detail is likely to degrade because the bars are inadequately anchored or something like this.

**MR HARE:**

Yes.

5 **COMMISSIONER FENWICK:**

I'm just wondering, I just get the feeling that some people are too focused on the strength of the building and so on without looking at the actual details that incorporate that performance.

10 **MR HARE:**

I absolutely agree with that. People are way too focused on the capacity of the building. I regard it as one of the least important aspects and I certainly agree totally that the evaluation that engineers should be concentrating on and starting with is the qualitative review of the building, looking at, exactly as  
15 you've described, looking at the details, assessing the vulnerabilities for that and, in the case that we've had now, comparing what they've assessed off the plans to what they find when they go and visit the building and we've tried to  
1218

set up the detailed engineering evaluation process exactly on that basis, they  
20 should start with a qualitative review and really if they're not encountering issues with that they don't need to go on and do the other part in our view.

**JUSTICE COOPER:**

Mr Stannard?

25

**MR STANNARD:**

Your Honour I just wanted to make a point, looking at, particularly about some of the details to try to improve building stock throughout the country and there has been a survey done of all of the buildings in that period where potentially  
30 non-ductile columns were permitted under the standard and there has been about 150 buildings identified throughout the country that need to be looked at closer. Not saying that they do have a problem but they do need to be looked at more closely and I think there's another couple of hundred where it's not

clear. So the potential – so that work is being undertaken at the moment through the Ministry and the other detail, I guess, we've been looking at is the stair issues and whether there is enough displacement capacity and there is follow-up work that will try to identify or ensure that building owners do identify those issues.

**JUSTICE COOPER:**

Just, the period that you're talking about is between 1976 and 1992?

10 **MR STANNARD:**

1982 to 1995.

**JUSTICE COOPER:**

Mr Brunsdon, do you wish to say anything about this issue that's just been addressed by Mr Hare and Mr Smith?

**MR BRUNSDON:**

No, other than to endorse, I guess the challenge of the engineering advisory group for Building & Housing is seeking to address around the undue emphasis on the capacity assessment of buildings and understanding better the vulnerabilities that specifically need to be addressed as a priority.

**JUSTICE COOPER:**

Mr Sewell, what about you?

25

**MR SEWELL:**

Our issue really revolves around the flagging. Unfortunately for the majority of customers and building owners, green means safe and I don't think that's the clear message they should be getting. There needs to be something in there that gives sufficient warning that the first assessment is all that it is, 'cos it's that confusion which has created the doubt and the concern with the property owners and, but maybe a better understanding of how the system works would help, so they know that the first assessment is, that is all it is, it's a

quick rapid fire response, but and some, and that they would get a better outcome later on, that causes concern.

**JUSTICE COOPER:**

5 It's a difficult issue though isn't it, because you made the point at the beginning of the day that there are so many building owners, different characteristics and sophistication that making or designing some communication programme which reaches all the people it needs to reach is – I mean we've had in this, in our hearings, without going into too much detail, a  
10 number of cases where quite clear advice from the Council in terms of notices and the need for care has simply been ignored or not responded to with any degree of urgency. So it is problematic isn't it?

**MR SEWELL:**

15 It is, we don't support that in any way, shape or form, but the reality is that after an event you need a system that aims at the lowest not at the highest and at the moment I would suggest that it's quite technical and it's aiming somewhere between the highest and the middle and the lowest aren't picking it up. And that's – as for enforcing some responsibility around the safety of  
20 your building and doing something about it, it is a complex issue but it requires some discipline I would suggest.

**COMMISSIONER CARTER:**

I'd just like to remind us all that yesterday we did hear I think was from  
25 Mr Lizundia that the event here is a huge test for the system, and that we shouldn't be reluctant to actually see a system improved rather than be hesitant to suggest any changes to what is, what was the basis of the international system that we followed. So I'd just like to ask the question, I mean there isn't any doubt in my mind, frankly, that we see green and green  
30 means go. We look at that however many times we pass through a traffic light every day that we drive a car and I just think we, no matter how well we try to educate the public, that green isn't a colour that is associated with safety and I can't see how we can re-educate the public to think differently to that. But

that's where I am at the moment and I'll declare that, but I do think there were suggestions about white, there were suggestions perhaps that another colour might be appropriate, and I think if we feel from what we've observed here that there's a real challenge in this area that we should be reluctant to suggest  
5 that the international system's changed. Could I see if there's any expressions of, on that topic?

**MR STANNARD:**

I'd certainly support that. I think I was just in the last few days I've been  
10 entertaining some Japanese visitors and they have a very similar system over there and their view was green is go. I mean there's no, and we heard that from Mr Lizundia yesterday that if it's green there is no further obligation as far as occupancy and I think there's the ability still to keep a green sticker based on if you have the right input at the front end to, you know, with the seismicity  
15 considerations, at that top level to still say for some categories of buildings you could still have green for some. If there's any doubt about it, perhaps you make it white. But that would depend on the categories of buildings, the nature of the event and the prospect of future events that, you know, based on the information that, you know, you can collectively understand.

20

**MR MCCARTHY:**

Excuse me if I may Sir, I think this is quite an immature system that we've, that we're using and but it's formalised to a degree where there's a real value in it. I think what we've built up is something of a dependency on by owners  
25 and the public on the, the status of the building from the placards. I do wonder if there shouldn't be another step before a building is reoccupied, or occupied, that the owner or the principal tenant is required to give some sort of plan to reoccupy. That would seem to me to be much more achievable for them, so they look at the – they then assess, they've got skin in the game, at  
30 the moment I think they feel they can depend on the placard but if they actually have to engage and look at the health and safety aspects and the public safety aspects then I think that engages them in a process prior to reoccupation. If, it's got its parallels and the identification of hazards in the

health and safety legislation, so the, you identify the hazard and in this case a building has been through an event that potentially has created a hazard on 1228

5 the property. So they, if they respond to that and it might be they're going to get a detailed engineering evaluation within a period but in the meantime they're taking other actions, perhaps isolating parts of the building that they might think are less strong then I think that would give everyone a greater confidence going forward before the building was occupied.

10 **COMMISSIONER CARTER:**

How would that have played out in the February event in terms of it, you know with there being quite a bit of evidence given to us about the logic in preventing the city moving forward, using its buildings and other – may have produced opposite view?

15

**MR McCARTHY:**

Well I think in the event that there's a lot of very small property owners for small buildings, they would have then at least have given consideration to some of these aspects. They would have committed to actions which as 20 we've seen through the course of these hearings many of them didn't. They just reoccupied and went for it. My view is if you get them to commit to a series of actions and that would depend on the degree of damage in the building, the degree of hazard, how many tenants and occupants they have, they would need to consider all of those things and it shifts the responsibility 25 away from the regulators, the Council and other parties.

**JUSTICE COOPER:**

Well, yes, but who would be checking these plans?

30 **MR McCARTHY:**

Well in the health and safety –

**JUSTICE COOPER:**

Who would be checking that they accurately describe the damage in the building and who would be removing from occupation the people who had occupied in breach of this plan?

5 **MR McCARTHY:**

Well there would need to be guidance for the owners but clearly the health and safety and legislation, health and safety and employment legislation presumes that the owner will take that responsibility and do it responsibly and I accept what you're saying Sir that there does need to be a degree of  
10 checking but that would all be part of the plan and they would say, well we don't think there's any damage in here so we're not going to get anything other than a low-level engineering check but at least there would be some sort of commitment for them to get some sort of check other than what the Council has done.

15

**JUSTICE COOPER:**

All right. I'm just, I'm not too sure about this analogy to the health and safety legislation which is not a statute that's designed to operate after a disaster.

20 **MR McCARTHY:**

It imposes a responsibility on the principal I guess and that's, and it's quite a market responsibility with a considerable fine.

**JUSTICE COOPER:**

25 Yes.

**MR McCARTHY:**

It does tend to focus people's attention and so I think there's, it's a worthwhile model to consider.

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**JUSTICE COOPER:**

Right. Okay. Anyone else want to comment on that suggestion? Or anything? Mr Smith.

**MR SMITH:**

I think that an occupancy certificate of some form may have merit and justifies probably further investigation. You've got to consider what happens after a significant aftershock and how you over-ride that or what the process is then but it would clarify the meaning of what the rapid assessment placards mean and possibly separate the "Safe to Occupy" from the rapid assessment process as a sole determinant and I think that might be helpful in management going forward. I think we should try and encourage some owner involvement. I support that proposal that the owner should maybe have some involvement perhaps just in applying for that certificate. Whether there's a plan or not is worth consideration but in the hearings there was definitely some owners took no interest at all in their building and I think if the owner is involved before occupancy there is a motivation for the owner to be interested and to take action. I think in saying that there needs to be a TA monitoring of the process because if an owner does not want to take action and the building's unoccupied you may still have a public safety risk and that shouldn't be overlooked and the only other comment I'd make at this time, in looking at the type B building, no type A building which was fairly low strength I just flag –

**JUSTICE COOPER:**

This is on Mr Brunsdon's slide?

**MR SMITH:**

Yes, yeah. I do just flag caution of those buildings. The experience in Chile was very much that they had quite a significant earthquake. They were building 16-storey apartment blocks in a certain style with fairly brittle reinforced concrete walls. They came through an earthquake particularly well. They took that as a signal that this is the way we should go and they started building up to 30 storeys in the same form and the next earthquake came along and it was very destructive on both types, both the 16, the larger buildings. I don't think one earthquake tests a building in a way that we can

say that gives us resilience. I think each earthquake can be quite different. The predominant period, whatever the characteristics of the shaking, and I think we've got to be very careful reading from a single earthquake or even from two or three that that necessarily provides a degree of safety or  
5 resilience in buildings.

**JUSTICE COOPER:**

Mr Wood anything from you on this subject?

10 **MR WOOD:**

If I may Your Honour.

**JUSTICE COOPER:**

Yes.

15

**MR WOOD:**

Coming back to what we have attempted to achieve in New Zealand related to the management of buildings following earthquake. So we've described that as the building safety evaluation process. It is founded on the American  
20 development of ATC 20 as we heard yesterday. We've also heard that that process has been taken up by other countries including Japan, Italy and a few others, Greece. There is merit in maintaining international engagement. However, right now we do have the attention of the world for the lessons that are emerging from the greater Christchurch experience and Mr Brunsdon and  
25 I met in California with relevant officials including members of ATC and we were so strongly encouraged to collaborate and that they wished to collaborate. My conclusion is that the recommendations that you may make should inform a process of international workshop to develop best practice using the experiences that we have in New Zealand but also to use relevant  
30 experience from other countries. There is a benefit in this in if the final part of the process, that will be after the detailed engineering evaluation or some similar end point, depending on the scale of the earthquake, if it's under a internationally recognised process then that has merit to international

financiers, insurance, reinsurance, international community – which we are part of. We do need to improve what we have. We could, I could talk a lot but I think better if we have this idea of a workshop with relevant parties to go through a process which will not be able to be done overnight. We do need to

5 move from where we are.

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**JUSTICE COOPER:**

So just to put that in, those remarks into the particular context of the placarding system for example. Supposing we were of the view, and we don't  
10 have a view, but supposing we were of the view after we considered the position that the green placards should be abandoned and white placards should be substituted, are you saying it would be better for the Royal Commission to recommend that that's an issue that be explored in consultation with the international community, rather than suggesting that we  
15 should just strike out on our own and wait for others to catch up. Is that the tenor of your suggestion?

**MR WOOD:**

That is the tenor, that is the tenor but you should also feel that you are  
20 comfortable with the lessons that are emerging, and I do wish to commend the paper that you have received from, under the authorship of Bruce Galloway and John Hare and I believe it is summarised in the SESOC submission John, and that is addressing what it appropriate at what point in time, and white is definitely, there is a model for how that could be used usefully. We do not  
25 need to go on. Green is inappropriate as currently used.

**JUSTICE COOPER:**

I assume just about green, yellow and red, that they've actually been chosen for their well recognised implications?

30

**MR WOOD:**

A number of us would talk about the advantage of KISS, keeping it simple, and green, yellow, red, people know what that means don't they?

**JUSTICE COOPER:**

Yes.

5 **MR WOOD:**

Green means go doesn't it, we've been there. So therefore when could you, would you use green? And one suggestion that has been made is that reserve the green until you've reached an end point in the assessment of the impacted buildings. That you could use it even in a grading scheme because  
10 it, if you do assess buildings now not all buildings are equal. Firstly, they were not constructed equally. I'm making reference there to the building importance level for example. But also they've performed differently, and so in the Christchurch, greater Christchurch instance there's now experience of how good buildings are. There is the issue of how much, how well they are  
15 retrofitted repaired, and they finish up with some status. You have had submissions on building grading schemes, perhaps green could be reserved for that final measure of grading. I hesitate to use the word "star", but there is one idea.

20 **JUSTICE COOPER:**

Those building grading systems if we've understood them have not related to post-earthquake effects?

**MR WOOD:**

25 Correct, but at the end of the assessment and the uptake of occupation, the buildings have been judged fit for use. They are then part of the building stock from that time on, until the next development or event.

**JUSTICE COOPER:**

30 You'd risk muddying the waters though wouldn't you by –

**MR WOOD:**

I didn't catch you, Your Honour?

**JUSTICE COOPER:**

I said you'd risk muddying the waters wouldn't you by confusing the different roles of the two systems?

5

**MR WOOD:**

Could I suggest Your Honour, no. Aren't we talking about the same thing? Fitness for purpose of occupation of a building for whatever purpose that might be, regardless of whether it's come through earthquake, been affected by flood or has a different quality of design and construction. It is about the fitness for purpose. Right now unless owners take a due diligence process, and I'm thinking of the total spectrum of buildings, owners don't necessarily know the quality of the building they're purchasing. I could make reference to those who own leaky buildings but I won't.

15

**JUSTICE COOPER:**

Well you don't need to, you can refer to earthquake affected buildings and buildings that have collapsed.

20 **MR WOOD:**

Now in the case of Wellington, and because of the efforts of Wellington City Council, the public may access the earthquake prone building, the potentially earthquake prone building list and see which buildings are better than others and react accordingly. But for the majority of buildings that are not rated as earthquake prone in Wellington, there is no indication of which building is better than others, and some buildings are better than others.

25

**MR SEWELL:**

30 This comes back to these various levels of skill attributed to building owners. The concept of an occupancy certificate, or I think I'll use the more common term around the place and I'll draw an analogy, warrant of fitness. If I want to go and buy a motor car and I wish to offer it for hire, the process is I need to

go and get a certificate of fitness so it gets pretty thoroughly checked by a motoring engineer who determines that that vehicle is okay to go on the road because it's unlikely to kill me, the driver and my passenger, or anybody else that happens to be on the road. So we've got one set of rules there. For a building there is no such rule. So I can go and buy a unreinforced brick building which is in fairly bad state, and I can offer it up for a retailer to go inside and that retailer can invite its customers in somewhere where there is no certification at all that the place is safe, well it will be certified that it's sanitary 'cos it's checked, but things like mould and other things which can kill you, there is no care taken at all. I think society needs to go a bigger step in this country and actually bring something in that says, why can't we have some form of warrant of fitness for buildings? And I'm not talking about whether the toilet fan works or the sprinkler system works and this sort of nonsense we have around a warrant at the moment. It goes further than that because it then comes to issues of value. Somebody employs a professional valuer to put a number on a building relative because they want to buy it. That valuation practice, or that valuation will arrive on your desk and it'll have two pages of disclaimers on it relating to the fact that it's not a structural report and it'll give you some numbers, and to be quite honest Your Honour it's rubbish. And then when the City Council and others are faced with these massive upgrade costs, the first thing they say is we can't afford to do this so we'll postpone it, in some cases, for forty years. Now they can afford to do it, but the person had a pretty clear indication on the building that number one it didn't have a warrant of fitness, therefore it needed some structural upgrading, therefore the owner will be well and truly warned by the process. At the moment we have none of that at all. It's a free for all. It's like a Wild West show and I would hope that this Commission will go somewhere to try and address that because it's those consequences that are the reason why we're having some of this Commission today and it needs to be addressed and I fully support the idea of an occupancy certificate. In the event of after an earthquake what is wrong with saying the fact that your certificate needs to be rechecked, we've had an event? So, you know, no more so than, you know, maybe it gets checked every couple of years but in the event of a, if you have

an event you've got a six month period to have it done. Meanwhile, you can't occupy, and I'm sure most owners, faced with not being able to occupy would move heaven and hell to get an engineer through their building. So there is plenty of incentive to get it done. So it comes down to some good, sensible approach.

**JUSTICE COOPER:**

Yes, well I'm just thinking about it. What do others think about what's just been described?

10

**MS NEWMAN:**

I think what my colleague's just described harks back to some comments that were made earlier today and also yesterday. There's a comment that society has to learn to live with risks and also a comment by Lizundia yesterday about living with earthquake proof buildings pre-event, and I think a lot of the issues that we have is that people just aren't aware of what the consequences are of

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doing what they're doing so they, they live in buildings that are below that 33% line and they're living there quite happily or they're occupying those buildings quite happily and they just don't, don't fully appreciate what the consequences may be when an event happens. So I agree that the warrant, the building warrant of fitness may well be an option. I think it's a massive challenge really to get some good public education out there or education to property owners that continuing in the fashion that we are operating in to not, either by choice or, or just current practice not maintain our buildings to an acceptable standard we are putting ourselves at risk and until we address that very basic concept I don't think we're going to be able to move forward just by putting technical practices in place.

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**JUSTICE COOPER:**

Right. Thank you. If we –

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**COMMISSIONER CARTER:**

The question of getting assessments done to determine a building's likely performance has been made and I think generally speaking we'd all like to have a system which understood what our building stock is capable of. There have been suggestion, of course the declaration of earthquake prone will be publicly known I believe and most authorities seem to recognise that. However, getting numerical evaluations, publicising engineering reports for buildings beyond the earthquake prone category does raise questions of whether that's an acceptable public position. So I'd quite like to hear members of the panel express whether they have a view on the detail that might be provided or perhaps bans that can be given or maybe the grading system which I think you've already heard an endorsement from at least two of the panel that grading is valuable. What about publicising engineering determinations?

15 **MR McCARTHY:**

If I may just comment. Our Council has made a submission to the Royal Commission that a structural survey be undertaken of buildings at 20 year intervals and then more regularly at the end of the intended life of the building. So if a building is built for 50 years that the period of assessment, re-assessment is made shorter and one would expect that if there was such a structural survey done it achieves a number of things. One, it gives us something of a profile for the building at regular intervals, it also, I think, could link to the building warrant of fitness system, so it's just another check that needs to be done at a pre-defined time as the building ages. The other thing that it does mean is that we could actually have that information publicly available so the building profile is actually available for everyone to see. So I think those, it serves a number of purposes.

**MR HARE:**

30 There is quite a lot of points to cover here I think in this one but one of the things which concerns me a little is as Commission Fenwick has already pointed out this obsession with capacity and are we or are we not just over this 33% line and the problem that that breeds is that people get so carried

away with looking at the capacity and running numbers that they forget to look at the building and actually see what's going to happen and I'm sort of more and more of the opinion that we need to consider that. I know we weren't supposed to be talking about the Earthquake Prone Building Act but I think we

5 keep coming back to that because we should be looking at the vulnerabilities and to some extent I'd say that the capacity of the building should be put very much to the background for a variety of reasons. One is it takes away the expensive computational effort that's required, otherwise everyone's going to go through that and I'm just not sure whether that's warranted whereas if

10 we're looking at vulnerabilities then it would be much easier also to strike away at dealing with those vulnerabilities in the future having identified them, we know where they are, and we can take a different approach to dealing with them. If I looked at the whole question of the earthquake prone building thing, I think I put a slide up at a public (inaudible 12:53:55) on that a couple of

15 years ago pointing out that we'd had the problem, we'd identified I think in 1968 in a piece of legislation and then 1974 and a couple of building acts since and there's a tendency to turn the clock back to zero every time and so consequentially I'll be able to have an entire career in the time it takes.

20 **JUSTICE COOPER:**

Mr Hare could you be interrupted do you think and resume your thread?

**MR HARE:**

Probably.

25

**JUSTICE COOPER:**

Doesn't some of what you're saying depend on the level at which the earthquake prone threshold is set because if it remains at something like its present level in effect, and certainly with the passage of time, what is going to

30 be affected are URM buildings in the main. Is that not right?

**MR HARE:**

I think that's probably right in the immediately future.

**JUSTICE COOPER:**

Yes.

5 **MR HARE:**

And yet if we looked at the highest, highest risk buildings in the sense of the potential outcome in the larger events it's not typically the unreinforced masonry buildings I think where we have the worst outcomes and we've seen that. I think –

10

**JUSTICE COOPER:**

Well you can have a good system for, no, well that observation is a difficult one to pursue given present timing.

15 **MR HARE:**

It is. Putting that to one side I'm not saying that we should lose altogether our considerations of building capacity but I am saying we should be striking initially at the vulnerabilities and then if we want to make a positive difference I think then looking very much at what we take it up to. It's a lot easier, I think  
20 engineers are much more reliable and able, in being able to design something which will exceed a certain minimum level than they are in being able to establish what the capacity of something is in the context of whatever happens and so if we said the building has, for example, an unreinforced masonry parapet that's got to be taken up to two-thirds or three-quarters of  
25 code as described yesterday by Mr Lizundia as done overseas that that would be a practical way of getting something done as opposed to arguing about whether it was currently at 32 or 34% and so I think in that sense we don't lose the capacity considerations but we certainly work away at the vulnerabilities.

30

**JUSTICE COOPER:**

That could work as an overlay couldn't it?

**MR HARE:**

Mmm?

**JUSTICE COOPER:**

5 That could work as an overlay.

**MR HARE:**

Yes. Just one more point if I may.

10 **JUSTICE COOPER:**

Yes.

**MR HARE:**

15 It's one I was wanting to come to before but one of the things we've found in  
looking through this, there was reference to Health and Safety in  
Employment Act and I think that's actually been a liability rather than a help in  
the process to date inasmuch as we see action being taken all over the  
country, much of it I think in the name of the Health and Safety in  
Employment Act, whereas to my mind at least anything related to buildings  
20 should be dealt with under the Building Act and it seems like applying Health  
and Safety in Employment policies to extreme events like this is probably  
inappropriate. That was just an observation.

**JUSTICE COOPER:**

25 You're preaching to the converted there I'm afraid Mr Hare but still.

**MR HARE:**

Excellent.

30 **JUSTICE COOPER:**

Yes now Mr Sewell did you, you're on the verge of saying something further I  
think.

**MR SEWELL:**

I was, I was just in total agreement with the comments, it's a leverage game actually the health and safety issue.

5 **JUSTICE COOPER:**

Yes.

**MR SEWELL:**

But maybe it's a leverage that's needed to wake some people up.

10

**JUSTICE COOPER:**

Maybe.

**MR SEWELL:**

15 They've tried other angles, it hasn't worked so that's why they're going this way.

**JUSTICE COOPER:**

That's right but nobody in this room is in that category I think.

20

**MR SEWELL:**

I hope not.

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**JUSTICE COOPER:**

25 Now I am just wondering whether the – I wonder whether there is merit in just, this may involve you again Mr Hare, I am sorry, but the process in which these details, engineering evaluations have been sought by CERA, has produced varying results I gather from what you are saying.

30 **MR HARE:**

That would be fair, yes.

**JUSTICE COOPER:**

You want to expand on that?

**MR HARE:**

Well I think it is testament to the fact that we've had to invent a lot of process  
5 in a relatively short time because we weren't that well prepared perhaps but  
clearly as I alluded to earlier I think engineers are much better at designing  
new structures by virtue of that having been what they have been doing for so  
many years and they are at assessing existing ones and so I think the  
10 difficulty of getting assessments done in that order it has been, it hasn't been  
easy and we have seen variable results. Now I wouldn't want to use, saying  
that the extremes of what we've seen to represent the average. I think there  
has been a lot of very good work done. We are seeing those reports come in  
and I think there is momentum building on getting that through so we are  
getting somewhere with that. I think, as I said earlier, the scale of this event  
15 has been such that it was felt warranted to look for the DEE reports for all  
buildings. We have been trying to steer people down the path of doing no  
more than is necessary and that has not always been successful. I think  
engineers rightly or wrongly have chosen to do more work rather than less in  
the effort of coming up with a more refined answer, whereas I don't think that  
20 was what we would have been looking for. I wouldn't necessarily choose to  
follow the same process for all scales of events because I think there will be  
times when we could look at, by virtue of scale of event, the size of the  
affected area, you wouldn't need to do that much work and simply reliance on  
the level one, level two inspections as having given us enough comfort with  
25 the outcome to say, yes those buildings can be occupied with no further  
investigation. That could be appropriate in some cases but certainly with the  
benefit of time a lot more training I think in building assessment for engineers  
and being able to establish the capacity of existing buildings and in being able  
to assess the effect of damage would certainly be high on the priority list.

30

**JUSTICE COOPER:**

Are there issues that people would like to discuss which have been discussed  
yet? I am conscious that we haven't spent specifically time addressing the –

what has been referred to as the transition to business as usual but the submissions deal with that and we are aware from our hearing that there are, you know, there are legal issues there. Mr Smith, were you going to suggest?

5 **MR SMITH:**

Not a new issue, no.

**JUSTICE COOPER:**

Yes Mr Wood?

10

**MR WOOD:**

A matter we have not touched on is the legal status of the placards, so if we are looking to improving the system then an element of that is what is the status of the placard, the authority of the placards and the process for  
15 changing the placards because I think an earlier reference was to our system was, "immature," and an element of that, I will use one example following the Darfield earthquake when the red placards were prized, you will know that, prized as a source of income. You don't know that?

20 **JUSTICE COOPER:**

No, no, we haven't had that –

**MR WOOD:**

Without getting into the specifics, because we can make sure you get the  
25 specifics, an NGO with good intent, offered relief finance to residential property owners who had a red placard. Red placards started to have commercial value. There is an extreme example of why attention should be given to the nature of the notices and their management. Mr Lizundia illustrated yesterday, observations they made, of different placards saying  
30 different things on the same building. There is another element of how to manage that because that process was inconsistent and at worst case may have been confusing. Adding to the confusions in the post 22<sup>nd</sup> February

environment of the placards, posted under the CERA Act and then the dangerous building notices.

**JUSTICE COOPER:**

5 Mr Wood if somebody sold a placard to somebody for the purpose of it being used to qualify for some assistance, my immediate reaction to that is it would probably be a crime involving the use of a document to obtain an improper advantage so it may well be covered and it may be communication of that in the assistance of the police –

10

**MR WOOD:**

The NGO learnt not to offer that assistance through that mechanism.

**JUSTICE COOPER:**

15 I think that would be covered, that is the way it would be covered under the criminal law.

**MR WOOD:**

20 My point is the process of posting placards, their use, their change was informal. It says and I have got them in front of me, posted under the authority of the controller under the Civil Defence Emergency Management Act even so that was insufficient. It is possible Christchurch City Council may have comment on this space as well.

25 **JUSTICE COOPER:**

Yes Mr Mitchell I have seen this not quite from that point of view but, although it is very interesting to hear, but I've seen one of the issues in the transition to business as usual, is what happens the day the state of emergency ends, what is the status of the placards and the power of the Council in relation to  
30 them and that was an issue wasn't it?

**MR MITCHELL:**

It certainly was an issue Sir 'cos you had the fact that during the state of emergency, the declaration of course, assuming the declaration had been made going back to discussion earlier this morning. The placards were morphed and I use that word deliberately into notices under the Building Act, through an order in Council because of course it was realised what – I think particularly after September there was an expectation that while, whatever work needs to be done as a result of issuing the placards could be done in a short space of time and I use that phrase because of course that morphing into Building Act notices had a life of some 60 days and I think the writers of the order in Council to be fair to them dealing with a brand new event thought oh, 60 days is ample. As we have found as a Council and of course 60 days is nowhere near ample at all and the Council has then left in mid November 2010 with hundreds of expiring building Act notices which we're then having to replace new notices under the Building Act and a similar event in the middle of July 2011 after the February event because again – and that whole process is, it needs to be yeah, I agree with Peter, it needs working, looking at that and seamless just going forward 'cos that sort of situation is just –

**JUSTICE COOPER:**

Well why was there a need, why was there perceived to be a need for time limit at all?

**MR MITCHELL:**

I can't answer that myself Sir, I don't know, I think at the end of the day the practical issue you get into and particularly if you are looking at residential placards of course it then interacts with discussions that home owners are having with EQC insurers and of course there has been, as we are well aware in the media a lot of angst around that and also you then get into situations while practically, normally 124 notices under the Building Act the Council are saying do X or Y to fix the problem. Here fixing the problem is tied in with EQC and insurance and it raises issues around well what is the role of the

even the Building Act notices in that context and it is a real issue to be resolved.

**JUSTICE COOPER:**

5 Any other comment on that issue? Mr Stannard.

**MR STANNARD:**

I'd just like to offer that that, I mean one of the proposals I guess is to have all of these powers under the Building Act and I think that does resolve some of  
10 those issues and it would address such things as liability for volunteers through the Building Act; placarding with regulation to cover content; placement; removal; an outlawing of independent placarding so that the record would be on the LIM and consent of work completion to enable their removal; roles and authorities defined for the Chief Executive of the Ministry,  
15 the Minister and territorial authorities; other things like factors that cause the exercise of authority that may not be a declared state of emergency and we discussed that earlier in the hearing and I think there's just an example there with the recent Nelson flooding issue – state of emergency declared briefly; floods went down; after the floods it was determined that we had all of these  
20 buildings that were potentially at risk from landslide so it needed some other mechanism potentially that supports that additional level of ability to undertake building evaluation without having it declared emergency. And the other thing that we would like to see in the legislation was the ability to investigate collapsed buildings and the management of debris post search and rescue.

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**JUSTICE COOPER:**

Well that's definitely one of the issues we'll be considering in the light of the CTV building.

30 **MR MCCARTHY:**

Sorry, sir, just briefly the issue of cordons and the responsibility for them is an issue for us as we go forward. We still have a lot of cordons out and barriers out many many many months after the events of last year and the

responsibility for managing cordons should it change? That's a question I'd be really interested to know the thoughts of the panellists.

**JUSTICE COOPER:**

- 5 Yes, I don't want to rush people so we'll come back at 2.15 if that's all right. If people can think of other things they wish to discuss we will be happy to do so.

**HEARING ADJOURNS: 1.11 PM**

**HEARING RESUMES: 2.18 PM**

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**JUSTICE COOPER:**

Mr McCarthy you were talking to us about cordons and I suggest you start again.

15 **MR McCARTHY:**

- Thank you Sir. The issue of cordons of course the Council where there's a public safety issue would always put cordons in to preserve that and keep people safe but they are expensive. They are typically \$15 a metre per month and if you extrapolate that out to a 20 or 30 metre-wide building each building is probably costing in the order of 2- \$300 to 450 a month and if you can imagine that post September 2010 we were managing in the order of six and a half kilometres of cordon, cordoned fencing.

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**JUSTICE COOPER:**

- 25 I record a higher figure, seven, seven and a half but you might be right. It's somewhere in the evidence anyway.

**MR McCARTHY:**

- Yes it's a lot of cordoning was being maintained and of course you've got the associated cost of the maintenance and shifting and adjusting of those, the engineers checking of the cordons and so I thought it warranted a bit of

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discussions perhaps around an appropriate time when the responsibility for those cordons might be passed over or shared with a building owner. At the moment it seems that whilst the Council or CERA has a cordon in place there'd be no financial or economic encouragement for the owner to be inclined to act quickly. The other issue is that of course the owner is managing his building, getting assessments done, working with his insurer and so he knows so much more about his building than the public body. So it's more appropriate for him to be protecting the public space or buildings alongside. So I'm raising this as quite a major issue after a major earthquake.

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10 The transition of responsibility needs to be considered.

**JUSTICE COOPER:**

Thank you. Does anybody have comments they wish to make on that issue?  
Yes, Mr Hare.

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**MR HARE:**

While appreciating the comments that Steve's made I think it's a very important point to address. I know that I've witnessed a lot of arguments, heated debates perhaps I should say, from both sides of the fence on that one. A big part of the issue there has been the question of liability for the outcome where owners looking for advice from their engineers will certainly be cognisant of what their building is up to but I don't think when they've been, when the engineers are being pressured to say where the cordon should be they've felt the concern I guess by virtue of their liability to the owner as opposed to the public outside of the building and so there's been a lot of reluctance on that basis for engineers to commit to where they think the cordon should be or what the cordon should be. So I've seen a lot of difficulties around that without having necessarily an opinion as to how it should be resolved.

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**JUSTICE COOPER:**

The way Mr McCarthy framed the question may not be the only way of framing the question because in the end it's in the road and can only be in the

road with the Council's consent. The road's under the Council's control. So the question might not be one of shifting responsibility for where the cordon is but of requiring the owner to pay for its continuance whilst the building remains in a condition which justifies it being there. Now what do people think of that proposition? Yes – Mr Sewell.

**MR SEWELL:**

Your Honour it sounds like a very good one but I think the issue is the Council will find when it goes to negotiate with owners it'll open up a hornets' nest. For instance if I was an owner I'd be saying, well, okay, I'll play your game but I want my consent to demolish in three days please.

**JUSTICE COOPER:**

Yes.

**MR SEWELL:**

Or something like that. So if you want to negotiate you better be prepared to sit down and negotiate.

**JUSTICE COOPER:**

Yes.

**MR SEWELL:**

I would suggest the Council might open itself up to negotiations it can't handle.

**JUSTICE COOPER:**

Well that's another issue of course that we are looking at because if a building is genuinely in a dangerous condition as a consequence of an earthquake there is quite a lot to be said for the idea that it should be able to be demolished with a minimum of process and I don't know whether you'd get much pushback from the Council on that concept. Mr Mitchell. I mean I think

there have been situations where as I've understood the Council's position they may have felt their hands tied by their own, well, by the legislation.

**MR MITCHELL:**

5 I think that does touch on the issue of another topic around the relationship with the RMA and heritage buildings. What I would say is if the Council felt that a building was fundamentally demolish – it does have the powers under 129. If it meets the immediate danger test then it does have the ability to serve the warrant and to, in fact, address that issue. The law as it stood  
10 before the earthquake where a building, a heritage building needed a resource consent if that's the way the city plan – that binds the Council as much as everyone else and, of course, that was addressed by the order in the Council that in terms of exercising 129 powers only you did not need to get a resource consent and of course CERA has a –

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**JUSTICE COOPER:**

That's the 2010 order in Council?

**MR MITCHELL:**

20 In Council, yes Sir, after September, that's right but I think the other comment is the Council certainly faces after September 2010 where you get some building owners who do nothing and we'd certainly had, served notice on them under 124 of the Building Act saying, well, we will go and prop your building at initially the Council's cost because that's where it starts but given the volume  
25 of buildings I can recall the early estimates we had were well over a million dollars just in propping costs and, again, it's just in terms of the scale of the matter, whereas I think a demolition may have been a better alternative in the long run but the Council doesn't want to get into the position after a major earthquake of simply going around, well not after September 2010, and  
30 demolishing buildings as a matter of course.

**MR McCARTHY:**

Might I add Sir, might I add Sir that the 129, the alteration that the order in Council made has targeted on Canterbury and it's limited in its duration and I do wonder if a more permanent change to section 129 might be appropriate so –

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**JUSTICE COOPER:**

We'll have to wait and see on that Mr McCarthy.

**MR McCARTHY:**

10 Yes Sir.

**JUSTICE COOPER:**

But it's an issue we've been aware of. Does anybody else wish to comment on that issue, Yes Ms, sorry Ms -

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**MS NEWMAN:**

In relation to establishing cordons it was the experience of the transition team that a relationship was formed between the CPEng engineer and the traffic safety engineers. So I would envisage should a move be made to transfer the responsibility to building owners that a relationship would continue with the Council in some form to ensure that traffic safety was maintained because drivers and pedestrians do interesting things when faced with barriers to their destination and those motivations need to be taken into account when placing barriers on roads and that sort of relationship I think should be considered in any recommendations that are made by the Commission.

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**JUSTICE COOPER:**

All right well then do any other issues arise that members of the panel wish to discuss. Perhaps if I just – Mr Hamilton?

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**MR HAMILTON:**

Your Honour there is a question around dealing with heritage buildings and certainly during the time of the national declaration where the authority lay

with the controller for dealing with heritage buildings there was a lot of difficulties dealing with the various stakeholders in a heritage building despite its risk or, and/or condition and I suspect that there are still issues post the emergency phase in dealing with heritage buildings as well.

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**JUSTICE COOPER:**

If a building is genuinely dangerous why should it matter what it's status is?  
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**MR HAMILTON:**

10 On one piece I would suggest that that's a perfectly straightforward argument to make, that if it's dangerous it's dangerous and you should treat it accordingly. On the other side, and I guess this was particularly in the case of Christchurch, in developing a heritage building policy we took into account the fact that heritage buildings in Christchurch are such an important part of the  
15 fabric and that we therefore treated them with slightly differ – well, yeah, with more deeper concerns about what they represented. In some cases I suspect to delay the inevitable.

**JUSTICE COOPER:**

20 So from your point of view is there a policy stance that you would urge on the Commission?

**MR HAMILTON:**

Well I found there were, there were sort of two heritage building organisations  
25 which, and two interpretations of status of heritage buildings which causes problems. So under the, and I'm probably going to get the terminology wrong, but sort of the national Historic Places type education you get one, and then you get a Council designation as well, so you get representation from Historic Places about the status of the building and why or what should be  
30 done with it, and then from well meaning citizens you get the alternative which is lobbying I suppose for both types of buildings. It seems to me that there needs to be some sort of system where we can treat heritage buildings, no matter how they are classified, the same across the country because it makes

it more easier to manage for emergency, from emergency management point of view. I am aware, Sir, that there is work going on to adjust the classification of our historic buildings, and that may, I'm not sure of the outcome yet but that may help us in some of this work.

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**JUSTICE COOPER:**

Has that work been carried out by the, by Mr Stannard's Ministry or somebody else?

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**MR HAMILTON:**

I understand it's been undertaken by Ministry of Culture and Heritage.

**MR MCCARTHY:**

If I may observe Sir, that the difficulty Councils experience is that section 129  
15 for example provides for a number of options in terms of addressing an issue of a potentially collapsing heritage building, and, or a dangerous heritage building, and generally the approach is to take the least intrusive option. So that's not necessarily demolition. That of course is to cordon or barrier or hoard up the building or brace it to allow the resource management process to  
20 proceed and for the community to make a decision through a hearings process. So that is often the reason why, in a Christchurch scenario, that we were, we placed containers against buildings rather than order the demolition or allow the demolition of heritage buildings. So the containers in some cases were just place holders and obviously preserving public safety until due  
25 process could be enacted.

**JUSTICE COOPER:**

It's possible that knowing what you know now you might have taken a different approach?

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**MR MCCARTHY:**

The one that's I think been brought to the Commission's attention I think was a historic building in Madras Street, which we put containers against I think in

the February earthquake. They served their purpose. So in that case it was probably the appropriate decision. Certainly, to use the 129 process to cut across heritage considerations, many owners were trying to do that and it was, it became a balancing act as to whether we allowed the demolition or we do alternative –

**JUSTICE COOPER:**

I understand the situation you were in, in September, and I also understand the general background of the assumptions that were being made about risk, but for the future the rest of the country, we're all now aware of what happened in Christchurch. So I wonder whether it's possible that –

**MR MCCARTHY:**

I think, I think the future, and Mr Mitchell will have a view, but, as well, but I think the future is to allow where a building is dangerous should override some of those heritage considerations, but I guess there's heritage and there's heritage, as has been pointed out, and some you need to give fuller consideration to.

**JUSTICE COOPER:**

Yes, do you want to add Mr Mitchell?

**MR MITCHELL:**

I think the reality of the situation is another event somewhere else in New Zealand, there'll be some council or potentially a national controller going through exactly the same angst because they don't, it's just, it's just the way life is. People interested in heritage buildings get very passionate about them and I think you end up in, and Mr Hamilton would've seen this and I saw it back in September, around the competing engineers, engineering advice it needs to be demolished, eng – different advice, it can be saved, and as controller it's your call. So, and I don't, I understand there may be some work that the Ministry's doing in terms, or trying to help in this area, but I think

fundamentally that'll simply be a problem throughout New Zealand with any other event in the future.

**JUSTICE COOPER:**

5 Well if you are going to deal with it in the way that Mr Hamilton was suggesting, so that the civil defence controller has one point of contact, that's, that would require a very substantial form and maybe that's an issue that needs to be considered as to whether it should be this double dealing that occurs with historic buildings, and whether we need to have both territorial  
10 authorities and a Statutory Trust, having responsibilities in the same area in relation to the same buildings or what can be the same buildings. That's an issue. Yes?

**MR SEWELL:**

15 Your Honour I wonder if the real issue is the huge volume of heritage buildings we have? Is it not about time we made up our minds about what really is and what really isn't, and what this nation can afford?

**JUSTICE COOPER:**

20 It's a reflection that I have had, that with the number of earthquake prone buildings and the number of unreinforced masonry buildings which are in that category, choices do have to be made and priorities arrived at by communities as to what are the buildings that really need to be strengthened and saved because there won't be enough money to go around them all. I don't know if  
25 anybody disagrees with that? So, yes Mr Wood?

**MR WOOD:**

A comment Your Honour, this matter is dealt with at length by the New Zealand Historic Places Trust submission. I'd commend that to you.  
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**JUSTICE COOPER:**

Yes.

**COMMISSIONER CARTER:**

I would like the councils here to comment on the extent to which they have included safety as a prime issue when they've granted a status under their either a heritage status or a building of cultural importance?

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**MR MITCHELL:**

I would expect that in the classification of the building as a listed heritage building of some sort that it's the heritage qualities that have been to the fore rather than the fact, as His Honour mentioned, a lot of these may have been unreinforced masonry buildings and the focus has been on the classification for RMA purposes or Historic Places Act purposes rather than, and perhaps then left while the Building Act would address sort of the safety issues if they were there. But I think the reality is when those classifications took place they weren't done in the world that we live in now around the event that happened in a large urban area and the effect it's had going forward.

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15**JUSTICE COOPER:**

Mr Toner in Wellington are buildings classified on the basis of any view as to their strength or is that left for another day?

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**MR TONER:**

It's not an area that I've been personally involved in but my understanding is very similar to what Peter Mitchell just explained in terms. It was done more on the heritage value of the building and any building safety issues would be a matter that would be addressed at the time, you know, they were raised.

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**MR MITCHELL:**

Perhaps I could say, Sir, just also to add that there have been a number of listed buildings in Christchurch where the owners, and I'm thinking here both of the Anglican and Catholic cathedrals, what was Warner's Hotel in The Square, there have been, you know, recognition by those owners of the need for earthquake strengthening. The Arts Centre's another one and so, of course, you then get involved in the separate processes of seeking grants

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from the Council, from other agencies, to then provide the strengthening required, which happened in a number of those buildings from that point of view as well. But I think to go back to Commissioner Carter's question I think my perception is that's tended to flow after the event. The classification's there as an historic building and then the need for earthquake strengthening has arisen and funding sought and then worked its way through the process like that.

**MR HARE:**

10 I think the issue, I think there's a couple of important points there on the way through. There was reference to the order in Council and I think there was something in there which was the linkage between the dangerous buildings and the earthquake-prone buildings which, on the one hand on the face of it, was there to help resolve this issue. On the other hand it created some rather  
15 unfortunate linkages further downstream and so sort of the general understanding of the word dangerous as it's defined in the Act and it's more general use was quite an important issue there which that didn't catch very well and I think as far as the conflicting engineering opinions go I think that's quite valid but it really comes down to a matter of cost. There's relatively few  
20 buildings which are so dangerous that they have to be demolished right away whereas there are a number which are obviously need a lot of work – shoring, temporary work or, finally, to be strengthened – and it really comes down to a matter of cost which often couldn't be resolved very quickly or easily. The real issue there is that if we have heritage buildings which are regarded as having  
25 value to the community beyond the value that they have to the owner then who is going to recognise that value to the community and I think while, as Mr Sewell mentioned earlier, is the issue that perhaps the valuations for those buildings were too high when the owners took them over. Nevertheless if we're going to recognise their value to the community and retain them,  
30 therefore, perhaps there needs to be another way of channelling funds towards addressing that and the time to address it, of course, for the rest of New Zealand is now before we have another earthquake and there's been

plenty of examples where that has been done very well and proven to be successful.

**JUSTICE COOPER:**

5 The majority of buildings that failed in Christchurch were not heritage buildings in the special sense of that word. They were merely old and they would not have, in many cases, justified the expenditure that would have been needed to repair them after the September earthquake or bring them up to a proper seismic strength.

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**MR HARE:**

I'd absolutely agree with that which is why I think before the earthquake is the time to make the determinations as to which ones are worthy of strengthening and retaining and which others are, as you say, simply old.

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**COMMISSIONER CARTER:**

That brings us back to the same point – understanding our building stock and prioritising what we're going to examine and what we're going to conserve and all sorts of things – is that question of knowing with some detail what you have in the city buildings continues to arise as an important characteristic.

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**JUSTICE COOPER:**

Well we're really –

25 **MR WOOD:**

The other element here, in addition to what Commissioner Carter has just noted, is pre-planning, so recognising what you wish to preserve, looking at what mechanisms are going to occur in terms of strengthening beforehand, how to treat it, but also pre-planning which can be applied across New Zealand to wherever the next event might occur and that would be to take up current best practice from around the world on the options. There may be different options but other people here are better qualified than I to comment on options for bracing, propping, tying etc. I am looking at Mr Hare.

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**JUSTICE COOPER:**

Well I think this is getting a bit, we're getting back to the situation that applied before an earthquake where our main focus here is intended to be on building management afterwards. I made the point myself that the better job you do before the earthquake would simply your task or the less difficult the task may be after the earthquake but is there anything else people want to discuss about the post-earthquake management of buildings?

**10 MR BRUNSDON:**

Your Honour it may be useful to have some discussion around the goals and objectives and the challenge of articulating or achieving a balance between public safety and continuing the functionality and the economic basis of the community. The New Zealand Society for Risk Management submission makes some useful points in relation to establishing the context of the risk and the ability to define different objectives and different criteria at the different stages of a building management process. But I think, following on from yesterday's discussions, it may be useful to get the views of the panel on the balancing of the two main objectives but also reflecting on the range of discussion and the submissions on this topic.

**MR WOOD:**

I agree with Mr Brunsdon's observation on that submission – the need to review the objectives – and I would put that into the context of my previous comment that that would be usefully done with others in the space from other countries.

**MR HAMILTON:**

Your Honour from an operational point of view the national plan lays out, not necessarily in any priority order, but the list of objectives for the response and it includes preservation of life and the prevention of escalation of the emergency, care of the sick and injured, provision of the essential services,

which includes lifelines and then goes on into preservation of economic activity and I guess the national plan is couched in that way so that that's a bit

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5 of a menu and it can be drawn on for specific circumstances. In the case of Christchurch it was always our objective in the first phase to look after those that were, needed to be rescued and were injured, provide the necessities of life through food, shelter and water and then well down the list if you like was the resumption of economic activity and the whole cordon process and  
10 leading into the building management process was around first of all safety and then into economic activity.

**JUSTICE COOPER:**

So can anybody add to that or wish to add to that. I am not sure whether you  
15 can do much better than that Mr Brunson, you may – I mean it is going to depend isn't on the nature of the event and what its effects are and giving yourselves a set of considerations to take into account is one thing and applying them is going to depend on the circumstances isn't it? I wouldn't have thought that as a society we would differ from having those objectives, or  
20 that safety and attending to the necessities of life should come at the top of the list. Nobody would –

**MR BRUNSDON:**

No Your Honour there is no question around that it is to the extent to which it  
25 dominates and this comes back to previous comments about the need for scalability and flexibility for the scale of the event.

**JUSTICE COOPER:**

Yes.

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**MR BRUNSDON:**

And again the two scenarios I painted yesterday, one being a smaller event affecting a smaller centre and it's just, it is the relationship of the two objectives that I think – the principle objectives seem to be most relevant.

5 **JUSTICE COOPER:**

Yes well does anybody wish to take that discussion further. Mr Sewell? Mr Brunsdon, I mean you want this aired but we are not, I am not generating any enthusiasm from them.

10 **MR BRUNSDON:**

That is fine Sir, there have been discussions around, you know, they are couched in one sentence such as the likes of maintaining public safety while providing for the continuity of a community. They are playing with words but it is just articulating the balance of objectives is really the point I wanted to make and again reflect on the range of comments that were made in the submissions on this topic.

**JUSTICE COOPER:**

Well, the only reaction I have to that is that I don't know what I achieved by putting both in the same sentence because the reality is the individual factors at the time that Mr Hamilton has listed in the national plan are going to be considered in some level of importance that will reflect somebody's assessment at the time of what should, what the most important thing is, isn't that right, I mean one can't write down everything in advance it seems to me.

25 Yes Ms Newman?

**MS NEWMAN:**

(inaudible 14:54:05) I suspect that the essence of the society for risk management are focused on community continuity is that it allows one to really identify that you can't isolate the building itself from its occupants or its use and I think that that was at times possibly lost, that there were at times, the treatment of a building as a structure independently analysed and by looking at the concept of community continuity. You can perhaps encourage

people to evaluate the full scope of the impact of a building. It is a more overarching concept is what I am trying to say.

**COMMISSIONER CARTER:**

5 One matter that I think we heard very little on and one can assume that we seem fairly satisfied with it but it concerns the assessment of the risk of loss, loss of life and loss of economic activity and the fact that most of the standards around building themselves, what standards we should we aiming for in a design sense have been developed through at virtually – I think I put it  
10 to you – at an international standard which is fairly common and widely used around the world so New Zealand, as I read the information presented to me, is fairly well in position on that matter. Yet we do find that the public or if we just say the person in the street isn't really very aware of how those matters have arisen and it has more or less been taken for granted up 'til now. We  
15 take it from the fact that that seems to be comfortable in the minds of all those who have made submissions to us that there is no challenge to the standards that we are setting and so you are a wide group of representatives, are we hearing the right message?

20 **JUSTICE COOPER:**

I am not sure standards in what sense? I am not sure, 'cos we have had –

**COMMISSIONER CARTER:**

These are the design standards that were designing our buildings to.

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**JUSTICE COOPER:**

The new standards?

**COMMISSIONER CARTER:**

30 The new standards, I am sorry, yes definitely the new standards that we have now reached and we are not receiving push back from the community other than in the vulnerability, you know, the resilience areas and I realise it is a little

bit outside this subject of this hearing but it will still be of interest for me to know if there is any differences of opinions on that score?

**JUSTICE COOPER:**

5 Yes, Mr Sewell?

**MR SEWELL:**

I think we could do with a wee bit more on the study of the societal loss rather than the direct human loss. You know one of the things that has come out of this Christchurch thing is that the fact we don't have a city, has an effect on our society and I think we've held together pretty well 'til now. I would suggest the pain is going start occurring from now on in and I don't see a lot of work coming out on that, either societal or economics sort of loss aspect of it compared to buildings designed to save life. I think they have done a reasonable job there but the issue now comes forward, is that good enough? You know, after the next major event, should I be able to wander back to my office, straighten up my desk and just go back in?

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**JUSTICE COOPER:**

Well this is an issue that we can't solve because we are set up as an inquiry into the building failure. Now when we published our stage one report, we identified that as an issue. We said that reviewing the performance of most modern buildings they achieved the objective that was set to them. People didn't die in them. Lucky escape in many cases but nevertheless – well in some cases I should say but nevertheless the building codes to which most modern buildings were built, meant that people did not die or suffer serious injury in them. There were a couple of exceptions to that depending on what you mean by the word modern. The question whether society wants to have buildings that are more resilient and sustain less damage and avoid situations such as occurred in Christchurch where there was terrible dislocation as a consequence in the earthquake is a question you are quite right, but it is one for society as a whole to consider and just what process that's going to occur

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in I don't know but I don't think we can reach that issue because of what we've been asked to do and that's the view we've already formally adopted on that subject but if you wanted to spend, and there's a question of cost and risk and balance and it may be that that is something the Government will consider or  
5 want to consider because I for one would not disagree with what you've said Mr Sewell that there are societal and economic costs here that are larger than building failure. Commissioner Carter reminds me that we have also as part of our Stage 1 Report attempted to give a summary of new or emerging building technologies which can enable people to build buildings which are –  
10 we've endeavoured to give a snapshot of what is available in terms of alternative ways of going about building design so that in some cases you could predict better performance in earthquakes and I haven't seen any publicity about that part of our report but it's early days but that – have you received a copy of that report?

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**MR SEWELL:**

I have but I haven't read it yet.

**JUSTICE COOPER:**

20 Well it may be, it may be that you will find some value in it, I don't know. Mr Stannard you were on the verge of saying something.

**MR STANNARD:**

25 Yes, just, no Your Honour the Ministry does have on its work plan some work to look at those issues around whether the current requirements for the structural safety under the Building Code are set at the appropriate level and whether in fact, I mean the building, the Building Act itself doesn't consider property protection which I guess is – so any change, if there was a proposal to change that it would have to change the Act as well.

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**JUSTICE COOPER:**

Well it does in a sense consider property protection doesn't it because as one of the performance standards that you've got to build a structure that won't threaten your neighbour.

5 **MR STANNARD:**

Absolutely, yes, yes you've got to protect other property but you don't necessarily have to protect your own property, I mean there are, there are in the objectives of the Act – but there is a proposal to do some work to public consult on the issues around whether we've got the right balance.

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**JUSTICE COOPER:**

Yes. Mr Smith.

**MR SMITH:**

15 Sir Ron's comments about design levels, I think there's general consensus the levels themselves are appropriate but I do think work needs to be done on structural form and, in particular, eliminating irregular structural systems and systems which I think by looking at the buildings you have, other than the unreinforced masonry, most of those had a structural form which was  
20 undesirable and yet it's possible to design those for strength but not, you just can't get the resilience into those structures and I think there's an area there where we can provide greater resilience into structure by being more, having more requirements in terms of structural form an regularity both vertically and horizontally.

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**JUSTICE COOPER:**

Sorry I'm not sure that's what you were aiming at because we've actually made a recommendation that that work be done in stage 1 of our report.

30 **MR SMITH:**

If I could, just one comment then, in the Building Act, in the objectives, I think one objective that is missing is resilience in earthquake. When you look at the requirements relating to fire and other aspects it does seem to me that the

Building Act should have an objective which does focus on resilience in natural disasters such as earthquake.

**JUSTICE COOPER:**

5 Right. Mr Wood.

**MR WOOD:**

Your Honour I've got one from my perspective final comment. The title of this hearing is the Building Management after Earthquakes.

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**JUSTICE COOPER:**

Yes.

**MR WOOD:**

15 That is fundamentally how you manage. It is about decision making immediately after earthquake, that is in an emergency environment. I would like to acknowledge your point that you cannot plan too much. There is a need for agility. But when those decisions are made they are based on the information available at the time. Your interim report refers to the needs or  
20 recommendation to Councils to improve their information management systems and we've discussed that today.

**JUSTICE COOPER:**

Mmm.

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**MR WOOD:**

The additional point I would like you to note is the need for all of those who are responding to be able to share their situational awareness, what their view is of what is happening and we do aspire to a common operating picture to  
30 reduce confusion and to enable the best decisions to be made in that emergency environment. The decisions will never always be the right ones, in hindsight.

**JUSTICE COOPER:**

Yes.

**MR WOOD:**

5 But if we are able to improve our systems and our pre-planning we will be able to manage buildings and other matters so much better.

**JUSTICE COOPER:**

10 All right. Mr Laing is there anything that you think we should be discussing and we haven't?

**MR LAING:**

15 I think that from the Council's perspective Messrs Mitchell and McCarthy have covered everything that I would wish to raise Your Honour. I think that there is obviously the need for a sort of close alignment of the various sets of legislation and that's obviously a very big topic in itself but just listening to the views today I came to the view that obviously that is going to be a very important issue to get that alignment right whatever, whatever the policy outcomes are. So I don't think I can add anything further.

20

**JUSTICE COOPER:**

25 Thank you. Anything else? All right well thank you all for your assistance and for the matters that you've brought to our attention and we'll look forward to providing a report on all these matters in mid-November as we're required to do. I acknowledged Mr Brunsdon yesterday, the work that he performed in this particular field. I think all of you in your own way have made very valuable contributions at the coalface for which you are to be congratulated and thanked and that includes your participation in our proceedings. Thank you very much.

30 **PANEL MEMBERS EXCUSED**

**HEARING ADJOURNS: 3.09 PM**

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