

HEARING RESUMES ON TUESDAY 11 SEPTEMBER 2012 AT 9.40 AM**ROLES AND RESPONSIBILITIES****5 MR MILLS – INTRODUCTION**

As the Commissioners are aware, this is the final hearing, final public hearing for the Royal Commission and, not inappropriately, it is on the issue of roles and responsibilities, the regulatory aspects of the issues that we've been
10 looking at throughout the hearing process I suppose it's fair to describe it as.

The issues that the Commission will be hearing on during the next two days address issues that are identified in one of the Royal Commission's terms of reference on which the Royal Commission is required to make
15 recommendations and that's the term of reference that requires the Royal Commission to consider the adequacy of the legal and best practice requirements for building design, construction and maintenance insofar as those requirements apply to managing risks of building failure caused by earthquakes.

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Now the hearing that is about to get underway deals with the issues of roles and responsibilities in two parts.

JUSTICE COOPER:

25 I must say I would have thought our primary focus was on paragraph 4 of that terms of reference. The roles of central government, of the building and construction industry and other elements of the private sector in developing and enforcing –

30 MR MILLS:

I think having had that said to me it's probably right –

JUSTICE COOPER:

Well it's part of paragraph D which you were quoting but the particular emphasis that I thought we'd set ourselves for this but it's very hard to draw lines around these subjects anyway.

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MR MILLS:

Yes, yes. The particular term of reference that I referred to is the one really that I mentioned because it went out to the various participants but Your Honour is quite right that that other provision or the other term that you just referred to certainly encompasses the issues that we'll be dealing with as well.

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So just to go on then, I was about to say that the hearing would deal with these issues in two parts. The first part of the hearing will deal with the efficiency of the current regulatory framework and how it might be improved, and again I'm really referring to the way in which this was sent out to the participants in the discussion paper that went out, and the second part of it deals with how regulatory approvals are obtained and the related issues of capability and quality assurance. So that's the two parts of the hearing process, broadly speaking, the first topic for today and the next topic for tomorrow.

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In anticipation of this hearing a discussion paper went out and was put on the Commission's website. It was a discussion paper prepared by the Royal Commission staff and all speakers that the Commissioners will be hearing from responded to that discussion paper. The paper was a combination of information that was set out and also a series of questions that were asked, and people were asked to respond to those questions, largely drawn from information that I think has emerged during the course of the hearing processes so far and from those various issues the Commission has been hearing on, issues particularly relevant to regulatory issues were extracted and put in that discussion paper.

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The discussion paper asked for a response on seven principal issues. There are a lot of sub-issues under these but again just to give the framework for this there were seven broad questions that were addressed in that discussion paper.

5 The first of them was the efficacy of the building regulatory framework.

The second one was standards development.

The third was responsibilities and how they were allocated.

The fourth was on capabilities.

The fifth was the resourcing of standards development.

10 The sixth was the obtaining of regulatory approvals for building work.

And the final one was issues around quality assurance.

There were 29 submissions that came in in response to that discussion paper and my count is that we are going to hear from eight submitters in person over

15 the next two days.

Now although the terms of reference refer to issues of regulation around building failure caused by earthquakes, because that issue is largely a discrete component of a wider issue of regulation of the building and construction sector, most of the submissions, and you'll get this when you hear the individual submitters, most of the submissions put the narrow question of building failure and managing risks around earthquakes within a much broader context of regulation generally of the building and construction sector.

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The hearing itself, as the Commissioners are aware, will involve a combination of individual submitters and panel discussion. There is a panel discussion scheduled at the end of each of those two parts of the hearing process.

30 The first witness or submitter that the Commission will hear from is Mr John Scarry. He will give a view from the perspective of a structural engineer who has, as the Commissioners know, been very critical of many aspects of the regulatory system. By agreement he will also comment, as I understand it, on

aspects of training of engineers which was yesterday's topic and, as I understand it, by agreement he will be bridging some elements of both of these hearings.

5 After Mr Scarry, the viewpoint of the regulator will be presented by Mr David Kelly and Dr Peter Mumford from the Ministry of Building Innovation and Employment, formerly really DBH in large measure or at least it's absorbed the functions of DBH. They will be followed by John Lumsden and Debbie Chin from Standards New Zealand and then by Pieter Burghout from
10 the Construction Industry Council and then Dr Nicki Crauford from IPENZ and that will round out the submitters for today. There will then be a panel discussion which is expected to carry over into tomorrow morning.

The topic for day 2 the Commissioners will again hear from Mr Kelly and he'll
15 be followed by Mr Nick Hill and then by Mr Geoff Hallam and then he will give an address of the regulatory approvals issue from the perspective of the building consent authority accreditation body, and then finally again the Commission will hear from Mr Burger giving an industry perspective on the regulatory approvals process. And again, if we run to schedule following the
20 afternoon adjournment tomorrow there will be another panel convened and that will include three people who have not given papers. The first is Frances Sullivan from Local Government New Zealand, the second is Adam Thornton who in this case will be representing IPENZ, and then finally Derek Bradley from CompuSoft who is standing in for Barry Davidson who as the
25 Commissioners know is overseas but has provided a valuable written submission which will be in the Commissioners' file.

JUSTICE COOPER:

So is somebody coming from the Queenstown Lakes District Council as well
30 was there? Mr Laurenson?

MR MILLS:

I'm just being told that for some reason I overlooked that, yes. Peter Laurenson from the Queenstown Lakes District Council. The Commissioners will also hear from him. So unless there's any questions about any of that I will call Mr Scarry.

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MR MILLS CALLS**JOHN MICHAEL SCARRY (SWORN)**

Q. Mr Scarry, so your full name is John Michael Scarry?

10 A. Correct.

Q. You're a structural engineer in Auckland, currently involved in sole practice?

A. Yes.

15 Q. You have a Bachelor of Engineering degree with First Class Honours from the University of Auckland?

A. Yes.

Q. Your specialisation is structural engineering?

A. Oh, sorry I also have a Masters degree.

20 Q. I was about to ask you about that. I'll just ask you some questions and if I miss something out you tell me, but I haven't quite finished. Your specialisation is structural engineering?

A. Yes.

25 Q. You also have a Masters of Engineering degree from the University of Auckland specialising in structural analysis, structural dynamics and earthquake engineering?

A. Yes.

30 Q. And relevant to the matters that you'll be dealing with here, you're the author of what's been described as an open letter to IPENZ on "The parlous state of the structural engineering profession and the construction industry in New Zealand", which you wrote in 2002?

A. Correct.

Q. Now it's really over to you as to how you want to present your evidence and I take it you've got some PowerPoints do you? As well as some –

A. Yes I have some photographs and a pdf file.

Q. I assume that they're all loaded into our system so they'll just be brought up when you want them. You just indicate when you want them to be –

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JUSTICE COOPER:

Q. Well apparently that's not a, may not be a correct assumption. Have you handed them to the staff?

A. Yeah, the document is GEN.SCA.0001

10

MR MILLS:

They are on the file.

JUSTICE COOPER:

15 That sounds very official.

EXAMINATION CONTINUES: MR MILLS

Q. Now as I say this is really over to you as to how you want to present at this point. I think I might just sit down if that's all right and let Mr Scarry go on with this. I will stand up if I need to.

20 A. I have, as you're aware I have made extensive written submissions and I wish to speak generally to them this morning. I had prepared a speech, for want of a better word, that would take about 60 minutes, but Mr Mills has assured me that some of the items I thought I had to really bring to your attention, you are aware of, so I would like to delete those
25 to give more time for questioning at the end. If you could just accept a few pauses as I edit on the fly?

A. In New Zealand the structural engineering profession, the other building professions and the wider construction industry are in absolute crisis and radical reform is urgently needed. This can no longer be denied if
30 for no other reason that already buildings of the Christchurch rebuild have failed under seismic and even gravity loading. This is for the

rebuilt that is supposed to produce the safest city in the world from a seismic perspective.

Radical reform was urgently needed 10 years ago when I released my open letter, but the last decade has been wasted, in many cases due to deliberate neglect. I promise to deal with the training of engineers, chartered professional engineers, IPENZ technical societies and roles and responsibilities, but I may have to jump around a little. I also promise to provide the only solution that will effectively address the crisis and provide a very simple way for the Commission to recommend it that will only take them a couple of lines.

New Zealand can only claim to lead the world in seismic engineering in the same way that an army could claim to be undefeated because it has never fought a war. As soon as a major modern New Zealand city was hit with a decent seismic event, a very short one, devastation was caused. Of something like 200 buildings over five storeys tall in the CBD, at least 100 will definitely be demolished and many of the rest may still be. To claim that except for the CTV building all modern post-1982 buildings performed their life safety function is at best disingenuous. That claim was fair only if all of these buildings had performed as intended, forming perfect plastic hinges at the ends of beams and at the bottom of columns and shear walls. That did not happen. Most of them developed all sorts of potentially catastrophic failure modes that simply were not meant to occur, and if the earthquake had been a big one from the main Alpine Fault, less intense than the 22nd of February 2011, but of two minutes' duration, there would've been wholesale collapses. Appalling standards of diaphragm design and construction and the brittleness of welded wire mesh form the major part of the warnings I issued in 2002, particularly in the first version of my open letter which I will only now show to people in camera. These concerns were dismissed, but I have been fully vindicated by the earthquakes of 2011. I have tried for 10 years to get these issues addressed, only to be ignored, or in the case of IPENZ deliberately subverted. Only now is brittle mesh slowly being banned. Progress on

diaphragms is negligible and these are just the tip of the icebergs of the dangers I have raised.

After starting, after I started drafting my open letter the O'Sullivan brothers' revelations on leaky buildings came out. Together these led to the re-drafting of the Building Act. Unfortunately the people at the Ministry of Economic Development charged with the task under Peter Mumford simply did not know what they were doing and ignored all of my submissions, suggestions and warnings. The Act has been a disaster. The worst leaky buildings have almost been dealt with but the rest are still in absolute crisis. One of the most important reforms I pushed for was a strong technically competent building authority. Instead we got the Department of Building and Housing, described recently by an engineer who is certainly no ally of mine as having two and a half structural engineers. The senior management is full of ex-Treasury, MED, local government, WINZ and Department of Social Welfare bureaucrats.

David Hopkins has been the lead structural advisor to the DBH and was aware of my open letter from the start. He refused to accept that there was a crisis in 2004 but even he, on his submission ENG.HOP.0010 states, "The technical resource at central government level is well short of that necessary to deliver reasonable and consistent standards of building safety throughout the country."

He recommends, "Establish an independent national authority responsible for and focused on building safety," and he goes on to say that, "This authority must be adequately resourced and in the hands of competent engineers, directly experienced in design and construction." It's only taken him 10 years but at last he's seen the light. Where I'm sure we would still disagree vehemently is as to the people who should be the controlling hands. I am sure he would put forward the usual suspects, the leading engineers and experts who have had a decade and more to do something to address the crisis but they've done less than nothing.

In response to my open letter, two ineffectual and largely whitewashed reports were written, one by IPENZ itself and one for the Building Industry Authority. My submissions on the Building Bill 2003 to the select committee and my subsequent direct appeals to Parliament were all ignored. In my open letter the worst examples were very important structures with glaring seismic defects, designed by leading firms for blue chip clients with not a developer in sight. In fact many of the individuals who have appeared before this Royal Commission as experts either personally or their firms, designed these shockers or approved them. Nearly all of the engineers responsible for the bad examples for registered engineers and are now chartered professional engineers. Some people were even made fellows of IPENZ for the very shockers I have described.

15 **JUSTICE COOPER:**

Mr Scarry, you are – we would prefer to look to the future and how the current situation can be improved. We are concerned with systemic issues not with particular people.

20 **MR SCARRY:**

I understand but my radical solution goes to the credibility of the present parties, not individuals but for example, the DBH.

JUSTICE COOPER:

25 Right well that's right within our terms of reference of course and I don't want to steer you away from that, but that is not something that you have been speaking about to this point. You are going to come on to that are you?

MR SCARRY:

30 Well, sorry, in one of the discussion papers I am talking about the chartering of professional engineers was brought up and for example it said that CPEng is New Zealand's only recognised quality mark. Well I would have it that

although IPENZ says CPEng as a quality mark and a mark of quality, I have it that CPEng doesn't mean a thing.

JUSTICE COOPER:

- 5 Yes I note that because I have read your paper, but what I am saying I guess is that that issue can be approached directly rather than through the lens of what you said in 2003, you know, tell us about your concerns –

MR SCARRY:

- 10 Sorry.

JUSTICE COOPER:

- 15 Not the fact that you have told somebody else about your concerns because we understand from having read your papers that you are raising, you want to raise issues and in the course of doing so you are telling us you've raised them before and not got any traction. Well you can raise these things direct with us rather than getting into some sort of blame game about what has happened in the last decade.

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MR SCARRY:

Except that I would just try to improve my editing on the fly.

JUSTICE COOPER:

- 25 All right.

MR SCARRY:

- 30 I would like to repeat though that there has, just to substantiate that the profession is in crisis, in my open letter the worst examples were buildings with severe seismic defects. Since then we've had, not only the major buildings with seismic defects continued we've got to the point now where some very significant buildings are failing under gravity loading.

Suffice to say I contend that IPENZ is not fit to be the registration authority under the Chartered Professional Engineers Act and I implore you to really take on board the submission by Peter Morgan which, who is a mechanical engineer and how IPENZ handled his complaint against a fellow of IPENZ.

5 One of the key things, everyone makes mistakes but attitudes are everything, and if people are not prepared to accept that they are not perfect and that existing assumptions and assessments are wrong we can have no improvement. For decades in New Zealand good American seismic design and construction practice has been largely ignored and Japanese practices
10 have largely been ridiculed. The Japanese design massively stiff buildings to resist large forces and none of what I recall full ductility (inaudible 10:04:25) equals (inaudible 10:04:30). If the Japanese had designed the modern buildings in the Christchurch CBD I doubt very much that so many of them would have to be demolished, but I've had no mention of this in the
15 information submitted to the Commission to this point.

These issues were raised at length with Maurice Williamson when several engineers and I met him on the 13th of December 2008. At the meeting he was shocked and exclaimed, "Why aren't these people in prison, why aren't these people in prison, don't worry I will get to the bottom of it." Well he
20 walked out and he has done nothing effective. He claims that he went to IPENZ, SESOC and NZSEE New Zealand Society of Earthquake Engineering and they said that I was wrong and what I said simply was not true. I think subsequent events have shown that I am correct.

As an example, current example, sorry I will take all of the other supporting
25 evidence of the dire straits as taken as read but there is one example I would like to show, it shows the depth to which New Zealand has sunk and it is a recent example. Can we go to page 26 of GEN.SCA.0001. Page 26.

Over 2400 years ago a very smart Greek came up with a brilliant concept of the screw thread. For all of the time since it has been taken as a given that
30 the thread of a nut should match the thread of the rod or bolt, be it British standard, Whitworth, UNF, coarse metric, the thread of the nut should match the thread of the rod or bolt. I can make New Guinea highlanders understand this. I could even make Amazonian Indians who do not have proper number

systems understand this, but I was not able to make the Department of Building and Housing or more specifically the Weather tight Homes Tribunal they administer understand this.

Can we look at page 27 please. This leaky home is the shocker of shockers.

5 It actually had so many structural defects it should have gone to the High Court but the home owners could simply not afford it so it ended up in the weather tight homes tribunal. In order to fix a timber roof to masonry walls, a timber plate must be fixed to the top of the masonry wall. What you see is an as built detail of what the original incompetent owner builder did. He cut into
10 the masonry walls and partially post grouted D12 vertical reinforcing bars and then installed RB12 N nuts to fix down the top plates in the high wind zone. Except that, the deformations on reinforcing bars have nothing to do with thread and are intended to improve the bond of bars in masonry or concrete. There are some proprietary threaded reinforcing bars that allowed threaded
15 couplers and in New Zealand that is red bar. Can you please take the samples I have given you and try to screw the red nut on to the D12 bar. Of course you can't –

JUSTICE COOPER:

20 No I tried that five minutes ago.

MR SCARRY:

What the builder did was grind off the deformations and merely push the nut on. These nuts could be pulled off by hand. A registered engineer signed it
25 off and it was one of very few details on the job and the Council gave it a consent. I presented such samples to the weather tight homes tribunal which is part of the DBH and said it was all nonsense but the weather tight homes assessor determined I didn't know what I was talking about.

Can we please go to page 16. This is what I can fairly describe as the first
30 building of the rebuild. Prior to the 4th of September 2010 earthquake, the owner did the decent thing and knocked down her old earthquake prone building in order to replace it with a state of the art world leading seismic resistant building. It was all finished in early June 2011 ready to open for

business and look at what the minor aftershock of 13th of June 2011 did to it. One up, one down, not a good start. I had seen several buildings going up in the area of the CBD and all I could think was have these people learnt nothing.

- 5 Can you please go to page 17. This is one new building under construction I did not see but it was posted on the web after the 23rd December aftershocks. Look at the eccentric layout. What use are those heavy front spandrel panels? The props are because it's under construction. It would have had a floor at mid height, um, but it has no structure at the front.

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JUSTICE COOPER:

Q. Do you know the address?

A. I know what street it's in.

Q. Which street?

- 15 A. Um, I'd have to search. If you contact John Henry he could tell you.

Q. Right, and the previous one where was that?

A. Um, I wanted to go and see that but they knocked it down about three days after it was leaning over at five degrees. In one of my appendices I think it's on Barbadoes Street. It's certainly within the CBD area.

- 20 Q. So the point you're making about this is it's an eccentric design is it?

A. Oh well the second one. I think it's come out. John Henry who I've known for about two years, one of the things he came up with was the key thing the earthquake showed is above all else you want good ground, you want a symmetric layout and you want positive load paths.

- 25 All the pre-cast buildings going up I see are highly eccentric. The fact that they tilt up and cantilever has enormous implications particularly for Auckland which I'll refer to in a short while and it has massive implications to the rebuild of the CBD in relation to the Central City Plan.

- I have included comments on that in my appendices and it needs much more attention because a lot of the rebuild is going to consist of eccentric buildings but with three storeys of apartments on top.
- 30

MR SCARRY CONTINUES WITH PRESENTATION

A. Can you please go to page 18. This is one of the photographs of these big spandrels and then go to page 19, 20, 21. Now these are bolted, permanent connections with almost no edge distance on them and they have ripped the concrete out. By chance when flying down yesterday I was sitting next to the boss of one of the large demolition companies and we got chatting and I started to show him this and he said, "But we're knocking these sorts of buildings down all the time." Well they are being built for the rebuild.

10 **JUSTICE COOPER:**

Q. When was this building damaged in this way?

A. It was a brand new building and it was damaged on the 23rd of December 2011. John Henry was passing and he said he didn't take these photos but he said he saw the owner who was a builder/developer and he was sitting there stunned because he said, "I thought I got the best design. I had it peer reviewed, what do I do now?"

A. Go to page 22 please. Now on the bottom photograph on the lower right-hand side you'll see a horizontal angle, blue one, bolted along the length of the panel to receive a pre-cast floor. One good feature of this building was instead of having bent and re-bent starters are threaded reed inserts have been put in. They're those dimples you can see at about 300 centres. They are for starter bars to go into the floor diaphragm but as I think you'll be aware from the CTV building the concrete in the vicinity of those connectors should be roughened to a full amplitude of 5mm free of latents. It's as smooth as a baby's bottom.

Can you go to page 23 please. Sorry to harp back onto history for a moment but a lot of tilt-up construction has gone on particularly for industrial type buildings, warehouse type buildings throughout New Zealand over the last couple of decades. As John Henry pointed out these have problems to do with the thickness and anchorage of the bars and one of the major problems, and it continued even after the reed products became available, is that starters would project from these precast panels which would be bent and re-bent. What was

hammered into us at university by the likes of Richard Fenwick was that you have to detail things properly and key to proper detailing are correct bend radii on reinforcing bars and clearly you break a piece of steel by bending it backwards and forwards which is why I've never accepted this. At a major meeting in Auckland to discuss the design of these panels I was the only engineer who raised the issues of the bent and re-bent starters but no-one seemed to take it too seriously. At that time a particularly brittle grade of reinforcing called Grade 500 had been introduced and I didn't know about it but it turns out that a lot of these bars were fracturing on re-bend. They are not the ones to worry about. The ones to worry about are all the ones that didn't quite fracture on re-bend. An engineer knew about this and I asked him to tell the authorities but he didn't but someone contacted the New Zealand Herald and it all became public knowledge. As a result in late 2003 the BIA issued explicit guidelines which said that if you have projecting starters they must be Grade 300. They must be bent to a minimum diameter and you are allowed a total bend of 180 degrees only. In other words, you can bend it up 90 degrees to fit the floor panels and you can bend it down 90 degrees into the floor diaphragm, a total bend of 180. Now I saw this illegal construction going up in Christchurch a couple of months ago. The circumstances were such that I wasn't able to take photographs but these are some photographs that I took in Auckland in 2004 and I did raise them at a meeting, a talk I gave to SESOC.

JUSTICE COOPER:

25 Q. Just so I understand, you're saying that this is a construction methodology which is unlawful?

A. Yes. If you look at the three pre-cast panels you'll see at mid height there is a row of bars which are meant to go into the floor diaphragm. There is also a row at the top so there's clearly two concrete floors and presumably some other masonry or whatever to go on top. If you run along the middle row from the left-hand side those bars that are bent horizontally almost certainly bent to zero radius it's illegal. The bars in

the middle is potentially illegal. The bars at the end have been bent down a 360 degree total bend to fit them in. That is illegal.

Q. So do you think that in this case, presumably is it Auckland City?

A. Yes.

5 Q. Was conniving at this practice, something illegal?

A. Um,

Q. I mean are you implying that it's a widespread thing?

A. Absolutely.

Q. So how can it be happening without the Council knowing about it?

10 A. Well they know about some buildings because on other jobs, um, I drive past and I'll see thousands of them all bent wrong so I'll phone up Bob Deleur at the Auckland Council and he'll send someone to deal with it but it hasn't been stopped in its tracks. What I tried to do in 2003 and I came within a hair's breadth to do it when Barry Brown was still the
15 reforming chairman of the near defunct BIA. I said, "What we need is a reading of the riot act", a bit like at schools where behaviour used to be so bad everyone was going to get caned so they'd bring people into the assembly and read the riot act in order to avoid it and what I said was that these basic fundamental principles like this ridiculous bending and
20 re-bending of reinforcing, cutting off hooks, vibrating concrete. That information would be put out in various forms – one form to the Councils, one form to engineers, one form to contractors all the way down to labourers with more and more pictures as the literacy may have reduced. The contractors and everyone would be told on, say, the 1st of
25 May, "Sit down and read it." Now it stops here and it stops now. If you do this anymore at this time registration was going to come along and licensing, you'll not be licensed or if you're licensed you'll be struck off because there's absolutely no need for it.

Q. So, just taking this a stage further, this is the sort of thing, or one of the
30 many things probably, you would say could be better attended to were there a central body with clear responsibility to keep the rule book as it were and enforce it?

1020

A. Well they all have the rule book, the key thing is that – is to have people who will drive past the site and I'm talking about the governing board, when I get onto it I will recommend a board which includes people like Colin Nicholas, Charles Clifton. They are the sort of people who can see these drawings on a plan and say this is rubbish, stop. They can see it on a construction site, it is rubbish, stop. It's not that they need to receive a report with some people saying, yay and some people saying nay and what do we do, oh, and we'll set up a committee. No, it's wrong and stop it. If I can use an actual analogy, I've written about it in my submission, but in 1969 there was a border clash between the Communist Chinese and the Soviet Union and it was in the middle of winter and a lot of the Soviet troops froze to death in the snow and for a Russian Army or a Soviet Army, that is shocking. So – in a corrupt regime the Generals back in Moscow who were veterans of the Second World War, went to the front and personally taught the troops how to sleep in the snow in a great coat and survive. Well that's the sort of thing we need. We need people who can go to the front and tell the troops this is wrong, this is what you must do, fix it.

Now that I've got a little bit more time could we bring up, page ENG.SCA.0001D.604. It is critical for proper seismic performance that the confining steel is properly anchored. One thing we get right in New Zealand is that rectangular stirrups are invariably bent back into the core 135 degrees so that if the cover concrete falls off it can't open up. For spirals you are required to put an extra half turn and then hook the bar back into the core 135 degrees, alternatively weld it, but given the grades of reinforcing we have now, we shouldn't be welding. It is virtually impossible in New Zealand to get that hook put onto the spirals. I asked for just one diagram to be put in the 2006 code, concrete code but I was ignored. For this particular case these piles are not seismically dominated. They're going in because a client of mine had her property endangered by a ridiculous excavation, right, no close to her house but the engineer responsible quickly designed some piles and on the one drawing I got him to show a detail drawn perfectly of the

extra turn and the hook back into the core. It couldn't have been simpler and yet these piles arrived on site from one of the biggest Auckland fabricators and you can see they've got no hooks on them. There are several more examples as well. Even when we got the men on site to
5 put the hooks on they didn't put them on all and from my experience if we'd had another supply in two days' time they still wouldn't have had hooks on them.

Now can you please bring up ENG.SCA.0001D.608. In 2008 I was invited to give a keynote address to the New Zealand Society of
10 Earthquake Engineering conference and I produced a paper called Resilience Urgently needed for a Brittle System Producing Brittle Buildings.

Please go to ENG.SCA.0001D.610. This is an example of a model used to look at organisational failure. It's well known about in the aircraft
15 industry and it was given to me by John Gray, the airline pilot who is fighting the good fight on behalf of leaky building owners.

20 **JUSTICE COOPER:**

Commissioner Carter's explained all this to me in some detail some months ago.

MR SCARRY:

25 The reason model?

JUSTICE COOPER:

Yes, because he had experience with Civil Aviation so I'm aware of that.

30 **MR SCARRY:**

Well the pilots and the technicians who have leaky homes are aghast. They cannot understand what they see in the construction industry that there is no positive feedback or anything like that and I'd just like to make one comment

on leaky homes if I – if I – edited it out. The DBH couldn't figure out what the extent of the crisis was, it fell to John Gray with my assistance, then Price Waterhouse Coopers classed it at 11 to 22 billion dollars. Now John Gray has said and it's been vindicated by independent research that I've given to you
5 that upon investigation 75 to 90% of leaky buildings or apartment buildings are found to have serious structural deficiencies including seismic deficiencies unrelated to water damage. It's across the board. I'm dealing with an apartment building in Christchurch at the moment. I got to work – started working with John Henry on it before any of the earthquakes. The basement,
10 the complex was leaky, the basement below water table was leaking. We discovered that the basement was highly over stressed and in February and June 2011 the slab failed as we said. It's been completely evacuated which is good because we then discovered that the only thing that had stopped the total collapse of the complex under gravity load during its entire life of about
15 11 years, there was a drafting error and critical reinforcing didn't get on the drawings. The only thing that's been holding that building up under gravity is the tensile strength of some topping concrete and some fortuitous arch action.

20 **JUSTICE COOPER:**

Are you able – do you feel able to tell us the address of that building?

MR SCARRY:

No because it's still subject to legal action and I don't have permission. CERA
25 certainly knows about it but again it's one of many I think.

JUSTICE COOPER:

In the CBD?

30 **MR SCARRY:**

Yes it was within the bounds of the original red zone but at the upper limit and it's on pretty good ground but it's also broken it's back. There's been differential settlement of 100 mm which is another thing when – in my

submissions you'll read I am pushing for wholesale vibro compaction of the CBD if at all possible down to 30 metres.

JUSTICE COOPER:

- 5 Have you seen our stage 1 report and all the recommendations in there about how to deal with ground conditions?

MR SCARRY:

10 Yes, but the problem is, particularly in a CBD, you can't, certainly can't do the ground improvement of vibro compaction on a site by site basis, and you certainly can't do it if there's an adjacent building and if you're looking forward 300 years which the mayor wants to, an American engineer pointed out quite rightly that piles are a form of ground pollution, they don't last forever and so in 100 years time if you've got a concrete or a steel pile and we have high
15 ground water and air, okay, you knock down a building, but how do you get rid of the piles, you can't counter them but how do you get rid of them. Also I would say that Charlies Clifton and I put forward a recommendation for a simple change to the central city plan which if you were going to pile or build buildings could have significantly reduced the amount of fire walls, loss of
20 space and piles but that's all been ignored as well.

Could we go to page ENG.SCA.0001D.612. This is my modification of the reason model to deal with the error trajectory of spirals with deficient end anchorage. It's not a cheese, it's a rind and I'm not exaggerating. Any one of those people, the design engineer, the draftsman, the engineering manager,
25 the building consent process people, the reinforcing fabricator manager, the reinforcing detailer, the reinforcing fabricator, the project manager, the main contractor, the steel fixers, the building inspector or the inspecting engineer could have stopped those defective spirals in their tracks but they were all over the place. Why isn't, how can it be that all of these bodies are not just
30 stopping it?

One of the people who really impressed me in my open letter, one of the things I concentrated on was diaphragms and many instances shear walls essentially unconnected to the floors. In some cases, much, much worse than

what we have seen on the CTV building. It is qualitative, you don't have to do any numbers, you can just look at it and all you see is these openings and I have tried for example to get the permission of the likes of SESOC to get out and say to everyone, look, look at the plan. The floor has to be connected
5 here and here, and if it isn't, don't touch it but I haven't been allowed to. But it is not – just as I said that as far as the warnings I've been given which started off with seismic and then went to gravity, well so with the rebuild. They started off failing under earthquake, they are now failing under gravity.

Could we have a look at GEN.SCA.0001.25. Apparently some pub or
10 whatever at the University of Canterbury was severely damaged so they built a new \$2.5 million dollar Event Centre. I presume it had a concrete slab on grade with a sprung floor, a timber floor, otherwise it had a timber floor on jack studs, I am not sure, but they had a concert, brand new building, they had a concert now a floor like that is supposed to be designed for 5 KPa you
15 shouldn't be able to beak it. Well, these students were dancing up and down in front of the stage and the floor collapsed. And if you read in the appendices you will see some very choice comments from the students who left, basically saying people are supposed to be designing, to resist earthquakes, can't they get their act together.

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COMMISSIONER CARTER:

You know what failed?

MR SCARRY:

25 Sorry?

COMMISSIONER CARTER:

Do you know what it was that failed under that floor?

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MR SCARRY:

No I don't know whether it was the actual plywood or particle board or the joists or it fell off or whatever, but all I can see is the V shape of it having failed. Now, oh, forget about the history and I am on to my radical solution.

The construction engineering profession and the construction industry are in absolute crisis. The maintenance of the status quo with a little tweaking will not address this crisis, it will ensure that total failure of the industry occurs soon. Unprecedented action is required because the present crisis is

5 unprecedented. As a first step there needs to be acknowledgement of this by Parliament on a bi-partisan basis, an acknowledgement of the critical importance of the building and construction industry, and a clear statement that it is to be saved at all costs. Forget about buildings, without a sound building and construction industry you cannot have any infrastructure, you

10 can't even have a telephone network. A competent, responsible Minister must be appointed and building legislation must be immediately redrafted by people who know what they are doing and what is required. The DBH has to be disbanded, and all other government departments have to relinquish any control over the building industry.

15 To regulate and guide the building industry, the professions and trades within the industry, and the training and competence of the people within the industry, a new body must be created. Let us call it "The Building and Construction Commission." This body would have a small and technically competent permanent staff, and be overseen by a Governing Board. All

20 building and research levies, all taxpayer money allocated to the building industry, including that for research, and all money allocated for university, technical institute or trade training in areas related to the building industry must come under the control of the Commission. Membership of the Governing Board must be by invitation only from the initial Board members.

25 Until the crisis is turned around, the core of the Board must come from those structural engineers who have identified the crisis, and worked for years for effective reform. Like-minded architects, tradesmen and the like will be invited as well.

Under the main Building and Construction Commission would sit the following

30 departments -

JUSTICE COOPER:

Well hang on, just let me understand this. You're envisaging a Governing Board that would receive hundreds of millions of dollars:

MR SCARRY:

5 No sorry, the Building and Construction Commission would be like the old Ministry of Works or what the Department of Building and Housing should have been. It will be a standalone government department like the Construction Commission.

10 **JUSTICE COOPER:**

I see.

MR SCARRY:

15 I had to write this up just before – to large extent it is in my submissions but I will certainly write it up and in a speech and a form to send to you the information if you want?

JUSTICE COOPER:

20 Well it is all right. I am at page 54 of your paper, dated 13th of August. That is where this appears isn't it?

MR SCARRY:

25 Yes, I have modified it slightly.

JUSTICE COOPER:

Right. But what the Board – the Board is not part of this government department, is it or is it?

30 **MR SCARRY:**

No, no, there'd be a Commission but it would have a Board of govern – it would have like an executive who did the work but it was also have an overseeing Board. The reason I have to structure it like that is the people who

I would have on it, for example like Charles Clifton are fully involved in their own essential work. They can't go and work full time for this department but they certainly should have oversight. They are doing a lot of the oversight now and saving things and trying to reform things but they have no power.

5

JUSTICE COOPER:

So it is a governance body is it?

MR SCARRY:

- 10 It is – you could consider it like the Ministry of Agriculture of whatever is called these days, to basically control, that controls the agriculture industry, this would be to control the building and construction industry. And one of the problems the building and construction industry have. An army gets to train its soldiers. Unfortunately the building construction industry, for example the
- 15 universities can go off and train engineers how they want to. It mightn't be perfect but there is no requirement for them to change their course. You would think after the leaky building crisis that the architecture, the architecture schools in New Zealand used to have a very high content of practical training. All architectural students used to get taught how to detail flashings, windows
- 20 doors, they had to do joinery and carpentry. I have it on good authority that five years after the leaky building crisis hit the headlines the last vestiges of practical training was removed. They don't have to mortise and tenon joints anymore, and talking to a senior, one of the senior people from the university the other week, he indicated that there had been no feedback from the
- 25 industry demanding it. Well if practicing architectural firms aren't going to demand that detailing I don't care, the Building and Construction Commission will, because a vast amount of government and tax payer money and levies has been spent and it has been spent very badly indeed and we need it tightly focused.
- 30 Under the main Building and Construction Commission would sit the following departments: structural engineering, architecture, building services, geotechnical engineering, construction. They would have their own supervising boards as well. The reason I'd like to put structural engineers sort

of in control of the governing board is basically structural engineers, the most important bit of all the bodies that get to do buildings, structural engineers are the last to get their things into the wish list and if we want seismic resistant buildings they have to come to the fore. These board members are not meant to be turning up for a meeting twice a year and rubber stamping waffle prepared for the politicians. They will be active because they already are. It merely lifts their present efforts, for example sitting on standards committees to a new level. Instead of being constrained by entrenched interests they will be able to implement effective reform. These are the sorts of people that can look at a drawing or a job site and say, “This is rubbish, fix that and that and stop it.”

The Building and Construction Commission will directly or commission and control advice to the Government, the Minister and Parliament, draft relevant legislation and regulations, write building codes, standards, guidelines and text with an emphasis on guidelines so that everyone in a particular field is known to have access to the critical basic information that is required and be expected to know it and apply it always or else. Register engineers, architects, tradesmen, other workers and companies working in the construction sector and provide swift, fair and effective disciplinary measures where required. More importantly, get out and provide fundamental guidance to avoid any ethical and practice problems developing in the first place. Reinstigate a genuine apprenticeship scheme for the industry, ensure minimum standards and guide the training at universities, technical institutes and the like, and fund that training. Regulate building products. Fund and guide an expanded research and testing programme focused initially on what we need to know.

Now obviously a lot of these functions would not be done directly by the Department or would be put out to the universities or other bodies as at present but there would be a centralised control, so we’re actually getting the research that we need to know now to answer the questions we need to know now. For example the fracturing of reinforcing in concrete buildings.

Recruit the best people overseas to make up shortfalls in our skill base, but especially to vastly increase the number of people available to train others at

universities, technical institutes and in trade training. Extricate New Zealand as far as possible from all of the free trade entanglements as they relate to the construction industry. Have control over and veto power over any decisions relating to the building sector made by Immigration New Zealand, NZQA and the importation of building materials.

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On an article on leaky buildings in *North & South* a few years ago it was made known that shower units are coming in from China which are made of plate glass. They turn up on the wharf and they're being sold and it is up to some building inspector to suspect it is plate glass and have it condemned. If one of those shatters it will cut anyone to shreds. We should not allow into this country anything that is a building material that is simply not fit for purpose, but at present it can come in and we have to try and run around and stop it but we don't have the staff to do it.

10

Carry out a major education programme for building owners and the public so they can at least make some partially informed decisions. Reinstate and enforce appropriate minimum scales of professional fees, and I would draw your attention to that report from Queensland in 2005 I think which shows categorically the collapse of professional fees in Queensland has led to a disaster and cost billions of wasted work. What has to be realised is that it's a total cost that has to be looked at, not professional fees, and the better the design the better, the lower the total cost. Get proportionate liability introduced instead of joint and several liability, backed up by unbreakable insurance schemes and ensure every party can pay if found to be liable. Carry out random audits of designs as submitted for consent and as approved, to check on what the designers are doing and what the building consent authorities are doing and provide a helpline for the industry. If anyone is worried and uncertain as to how to deal with a problem, decent help will only be a phone call away. Provide technical support to the Courts and the like so that claims for building defects can be assessed properly. Develop for engineers, architects, draughtsmen, tradesmen et cetera a minimum compendia of knowledge and minimum skill sets that everyone is expected to know and can be tested on. It is a simple choice really. It is a choice between having the ex-Treasury, MED, WINZ and Social Welfare bureaucrats and their

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two and a half engineers and IPENZ in control, or the likes of Barry Davis and Colin Nicholas, Charles Clifton, John Scarry, and if they're willing Richard Fenwick and John Henry in control. I know who the public would go for if given the choice. I definitely know who all the leaky and structurally deficient home owners would go for.

5 Education of engineers. I shall concentrate here on the training of structural engineers, but similar improvements are required across the board for the professions and trades within the construction industry. I would also like to note that despite my open letter and all the subsequent shockers, including
10 the collapsing stadia, neither the civil engineering department of the University of Auckland, nor the civil engineering department of the University of Canterbury, as opposed to a few individual lecturers have ever contacted me in any way at all to ask what might be going wrong. I'm tending to think there should be a BE Structural which would still include other civil
15 disciplines, but with a much greater focus on structures, especially realistic work type training. Charles Clifton and Colin Nicholas have significantly increased the amount and complexity of the structural design content of the undergraduate degree at Auckland. So much so that the students grumble that it impacts on the time available to do other course work, but once the
20 students graduate the feedback they receive is, "You were right to give us as much as you did because there is so much a structural engineer has to know."

JUSTICE COOPER:

Q. Has that occurred at the expense of something else that's been
25 dropped? I mean how's that been able to be achieved? Because we've heard from others how much pressure has come on the BE degree in terms of the ever expanding subject matter that has to be addressed, and one consequence of that has been, I thought at both universities, a reduction in the amount of time able to be spent on the structural
30 engineers, but you say that's not the case in Auckland?

A. Well the problem is that's where the students are grumbling, that the additional work that Charles and Colin have put on has expanded to

occupy more than, say they're doing two papers out of five, what Charles and Colin are giving them takes up more than 40% of their time.

Q. Right.

5 A. I'm not sure of the exact contents of the courses, but I think a lot of soft subjects have come in over the years which has expanded, which are not necessarily what, the sort of thing that engineers should pick up when they're working but not necessarily be taught at university.

EXAMINATION CONTINUES: MR MILLS

10 A. And although I qualify this later, the general feedback they receive is that – Charles and Colin receive – is that the students are not getting on the job training. Certainly nothing like the mentoring that Colin or Charles would give them if they were working on the same design office. Now Charles and Colin actually do give mentoring because these people phone them up and get additional advice and they give it free, provided they get feedback on what's going on. Both of which I have
15 been saying all along. Some firms have graduate training programmes but they, I'll be polite and say they're just not up to it.

JUSTICE COOPER:

20 Q. Are you aware of any firm that does have an acceptable training or mentoring programme?

A. No and there's, to some extent there's a reason for that. The best training, sorry I didn't bring it but key, I get onto it in a minute but basically when you graduate from uni – I say they're graduates that I
25 work with, I say I expect you to know nothing other than to be able to do basic arithmetic and be able to draw a decent engineering sketch. They've got a general education but they don't know how to do a real building, they can't. Now the way to get the training is to almost serve an apprenticeship where you're working at the knee of a first rate practising engineer. It's not just a clause in the code or whatever, but
30 it's about picking up all of his or her anecdotes and tips of all of their years of experience. And critical is the idea that there will be self-

learning and self training. Unfortunately this doesn't occur. When I was a graduate I was always going and buying textbooks which as the codes have changed you can't get the textbooks anymore. If you can get one or two the nomenclature of the modern codes means overseas textbooks are inapplicable but most graduates don't even do that. I know one architect who employed graduates and he would implore them, he said, "I'll pay you so many hours a week at home to do background reading," and they still won't do it, and the other thing was we always used to have our own copy, not necessarily legal of the loadings code, the steel code and the concrete code, well worn from being looked at all the time. What you often get now, oh, the students don't have a library, you get a work station which has no facility to have a library and you don't even get a copy of the codes. For 12 engineers there might be three codes over in the library and there is nothing as depressing to see a graduate going over to a code he hasn't seen for months and then trying to scramble to find a clause that might or might not be applicable. No, he should be understanding the basic principles and only using the clauses that he understands to quantify what he's doing.

20

JUSTICE COOPER:

Why can't they be online?

MR SCARRY:

25 Well I get a lot of information off the website but books are great and I – at least with books you can mark them, you can have several pages open, I mean it doesn't – it wouldn't matter if it was online and this is one of the reasons why I say standards in New Zealand redundant, you don't have to publish it, the code, could be online as a pdf. The American Institute of Steel
30 Construction, all of their codes are completely free and are online, you know books that would cost \$1000 I can download them for free but the thing is to print them out and have them, and also the codes have to stabilise. It's got to be a basic guideline. Specialist papers can send you off to look at crane

girders or fatigue or whatever but you can't just keep re-writing the codes every 10 years because who can keep up. You've got to have this basic thing because it should be good and it should be consistent with minor tweaks in everything. I mean, a code called BS449 was written in Britain in the 1950s.

5 It's been used around the world for – to design millions of buildings, it's a beautiful simple code, it lived on as AS1250 into the 1990s. You've got a copy of it, that didn't change at all but it had the basics and combined and it was simple to follow and combine with other papers and sound in engineering practices you could design very good buildings for it. What you get now is a
10 code 750 pages and it's just incomprehensible.

One of the problems with graduates is that it's sort of like, oh, you can only do little things, here's a little job, go and do it, like a house job. Well house jobs are actually the most difficult, particularly if an engineer's involved. It's a nightmare. They don't have the experience or whatever to do it. Basically
15 graduates should be assisting a senior engineer doing parts of the job and when that – and then slowly build up to speed and get more experience. That's critical but one of the problems is we have less and less senior engineers. Most of the good ones are still imbued with a lot of acceptance of a lot of bad practices which I think should be got rid of and also the fee and the
20 time structure just precludes that. I mean the CTV building was a very simple layout. Many buildings are just horrifically complicated and the work to do the engineering properly doesn't just increase linearly, it goes up expedientially, and it's getting to the point now where you may be aware of things like the Guggenheim Bilbao and other Gehry buildings where he throws a sheet over
25 some blocks or models some clay and they scan it with a laser and then it has to go into 3D computer software et cetera. Well we're getting to the point where even simple bus stops and railway stations in Auckland are getting like that and it just can't go on, because we don't have the staff to deal with all of this. We've got to simplify things and get it right and then get a bit more
30 complicated.

And finally I have an easy way for you to recommend that radical reform. If you've watched the DVD I gave you of my interview on Close Up with Maurice Williamson, near the end –

JUSTICE COOPER:

Well I haven't, have you?

5 **UNKNOWN SPEAKER:**

No.

JUSTICE COOPER:

We haven't watched it.

10

MR SCARRY:

You haven't – well I recommend it. Near the end, after I call for his resignation, you would have noticed that he offered unreservedly a blank cheque to save the profession and industry, provided I could get the likes of IPENZ, SESOC and the New Zealand Society of Earthquake Engineering to agree with my warnings. Barry Davidson saw that as I did and he organised a meeting with a representative of one of these bodies to facilitate the catching of the blank cheque. Unfortunately that person was only prepared to ask for about 10 to 20 cents on the dollar – sorry Williamson said, "The –

20

JUSTICE COOPER:

Let's call him Mr Williamson, shall we.

MR SCARRY:

25 Sorry, what did I say?

JUSTICE COOPER:

I said shall we call him Mr Williamson.

30 **MR SCARRY:**

Sorry did I say -

JUSTICE COOPER:

Williamson.

MR SCARRY:

Oh no sorry I meant – what Maurice Williamson said is, “We have no choice if
5 these bodies say they agree with John Scarry we’ll give them anything he
wants, we will have no choice.” Unfortunately that person was only prepared
to ask for about 10 to 20 cents on the dollar and would have settled for less
but then he did nothing. All the Commission has to do is to say that John
Scarry’s right and then the Government will have to implement all of the
10 radical reforms necessary without complaint for the benefit of all.

JUSTICE COOPER:

Sorry, didn't catch the full force of the last sentence.

15 **MR SCARRY:**

All the Royal Commission has to do is say that John Scarry is right, and then
the Government will have to implement all of the necessary radical reforms
without complaint and for the benefit of all.

20 **JUSTICE COOPER:**

All right, well you said what I’d thought you’d said. Thank you.

MR MILLS:

Thank you Mr Scarry, thank you very much for that, so you can now exit and
25 we’ll put somebody else in your seat, unless there's further questions.

COMMISSIONER CARTER:

30 Well I’d just like to ask one question around the professional support for the
various levels in the industry. We've talked a lot about the design segment
and just noticing that most construction organisations have a choice to either
put quality engineering control into their construction work and you know with

so much precast concrete work going on, you see, do you have any comment to make about the location of professional skills within the construction segment looking at our James Reason model?

5 **MR SCARRY:**

Yes, if you – you should be able to trust – we have to get the skill levels up. One of the strange things is that for anyone, for a labourer to go onto a construction site he has to go through a site safety course and have a site safe certificate but he doesn't have to go into any course that tells him he's not allowed to rebend starter bars or to drop hot metal onto grade 500 reinforcing. There should be basic guidance provided. This is where I'm saying we have to get the same – the critical information in different forms out to the entire sector. Get the people into big halls, explain what the issue is, why you have to do it this way and say, right from here on you do it this way or else and we have a major problem. We've lost 10 years if not more. It is difficult but we actually have to – have to get increases in productivity, we have to raise the skill level. There are buildings that go up overseas completely cast in situ like this twisty building in Sweden and they'll have only 11 men on that job and they will do half a floor every two days or one floor every four days. They're not – there's not inspectors all over the place they just know what they're doing and they do it and you can't inspect quality, it has to be built in, and if you turn up on site and there have been major stuff ups, in many cases how do you fix it, and we don't have the staff. Even if we had all the will in the world and could put it, a clerk of works on the site and you could send engineers out on site to do the inspections we just don't have the staff. They're not around. The whole skill base has been deskilled over many years.

30 **JUSTICE COOPER:**

Yes, thank you Mr Scarry. To the extent that you've departed from what you've put in writing, we'll have a transcript of what you've said today, all right.

MR SCARRY:

Yes, I'll try to re-edit this to match what I've said.

JUSTICE COOPER:

- 5 No, no, I'm saying you don't need to do that because everything that everybody says here is typed up. There are people off-site who are doing that. Thank you.

1100

5 **MR ALLAN CALLS:**
DAVID KELLY (SWORN)
PETER MUMFORD (SWORN)

MR ALLAN:

10 Yes Mr Kelly, good morning.

MR KELLY:

Good morning.

15 **MR ALLAN:**

Perhaps if I could start with you. You are from the Ministry of Building Innovation and Employment and you are the director of the Canterbury Rebuild and Recovery part of the building and housing group of that Ministry?

20 **MR KELLY:**

That is correct.

MR ALLAN:

And Dr Mumford, you are the director of the Economic Development Group
25 within the Ministry?

DR MUMFORD:

I am a director within that group yes.

30 **MR ALLAN:**

And you currently have oversight of the standards and conformance infrastructure review that is ongoing and is examining the role of, amongst other things, of Standards New Zealand.

DR MUMFORD:

(no audible answer 11:04:14).

5 **MR ALLAN:**

Were you also responsible for a review of the Building Act which is currently informing the Ministry's ongoing work programme.

DR MUMFORD:

10 (no audible answer 11:04:25).

MR ALLAN:

And have you having been in charge of that review or involved with it, completed a PhD relevant to some of the issues in which you are going to give evidence today.

DR MUMFORD:

(no audible answer 11:04:40).

20 **JUSTICE COOPER:**

Can I just ask you, these microphones are quite good if you approach reasonably close to them and just let me explain we have people offsite who are typing things up and they can't do nods or inaudible whispers.

25 **DR MUMFORD:**

Thank you Your Honour.

MR ALLAN:

All right now gentlemen for the purposes of presenting your evidence this morning have you put together a presentation that you propose speaking to?

MR KELLY:

Yes we have.

MR ALLAN:

All right and I think that has just magically appeared on the screen in front of you. Perhaps if we can just start off if understand Dr Mumford you might be
5 leading off on the presentation?

DR MUMFORD:

Yes. Thank you very much I want to cover a couple of aspects before we move to the more specific areas that Mr Kelly will deal with, and just to put it
10 into context I think the Royal Commission has heard and will continue to hear today quite a lot about the regulatory system and quite a lot about the standard system and the bit that I want to comment on specifically is the interface between the two and just to draw that to Your Honour's attention, and I will certainly be willing to answer any questions associated with that. It
15 is an important interface and we believe that it needs to be understood quite well. We have our own view about the interface but we took the precaution of seeking the views of Professor John Burrows. He did a peer review effectively of a paper that we produced that described the interface and to confirm our view on it so it is a view that we have within the Ministry of Business
20 Innovation and Employment; but it has been verified by Professor John Burrows and he has given us written advice with respect, in this regard.

I want to start by just outlining the objectives of the 2004 review. The 2004 Building Act Reforms because the Building Act 2004 is now if you like the foundation bit of law. It has been amended and enhanced and added to over
25 the years since 2004 but it is still the foundation document and again it provides an important context for the other comments that I am going to make but I want to highlight three aspects of the 2004 Reforms in terms of objectives.

The first was a clear objective was to establish a central building regulator
30 with clear functions and associated powers. So when we did the reforms and I led that process we needed to turn our minds to whether there was a future for the building industry authority and what future that would be and I think you might describe the regime as it operated was a co-regulatory system a lot of

the responsibility sat with the territorial authorities and the building industry authority had an oversight role. Our view at the time and this was reflected in the Act is that you needed a very strong central regulator, well resourced, and one of the objectives of the 2004 reforms was to put in place a strong central
5 regulator, well resourced. And in terms of resourcing it wasn't just money, but clearly substantial as there was a substantial increase in the budget for the building regulator but was to ensure that it had the appropriate functions and the appropriate powers to be able to carry out the role as a strong central regulator.

10 And three functions I'll identify specifically, one is the approval of authoritative documents, compliance documents which were the old acceptable solutions and a new category of document called a guidance document which was the new function that was given to it. It was given a new function of being able to issue bands and warnings, it was able to mandate compliance documents as
15 the only means of compliance, it was able to issue determinations in situations of dispute or doubt but it was given a new calling power so it was given an ability to initiate a determination in its own right which the building industry authority did not have.

Secondly, an objective was to reduce the need for consenting authorities to
20 make complex decisions. So there was a view that the consenting authorities, the territorial authorities, would not have the capacity to make complex decisions in certain situations, so a complex building, a novel building that had novel elements to it, they may well not have the ability to make complex decisions and there was a number of measures that were put in place to
25 reduce the need for consenting authorities to make complex decisions.

Firstly, there was an expectation that the building code would contain much more specific and measurable performance requirements. The terms "adequate" would no longer feature ideally in the building code itself.

Secondly, there would be a much larger suite of compliance documents. So
30 the compliance documents are deemed to comply with the building code. A much larger suite of compliance documents and an enhanced certification regime as an alternative way by which designers and manufacturers can achieve a design or a product which is deemed to meet the requirements of

the building code.

JUSTICE COOPER:

So this was to some extent stepping back from 1991 and the performance
5 based, or the pure performance based idea for the building code?

DR MUMFORD:

It left in place the performance based framework very, very clearly –

10 **JUSTICE COOPER:**

But it supplemented it?

DR MUMFORD:

It was supplemented. Clearly it was intended to provide a viable alternative to
15 alternative solutions. So one way, and this is my description rather than
necessarily what appeared in the policy papers, they way I'd think about it you
almost would have a standalone performance route, and a standalone, what I
might describe as prescriptive route, just to use the, so the terminology that
you could follow one route or the other but you weren't dependent on the
20 performance, the alternative solutions route. The alternative approach of
working on the basis of documents which embodied current knowledge about
good practice that was accepted by the consenting authorities that was
inspected against, was a viable standalone alternative to the alternative route,
and that probably didn't exist post-1991. The emphasis was much more on
25 the, on the alternative way of meeting the requirements of the building code.

More proactive use of determinations, and they call empower as associated
with that. And then the two other elements I'll just touch on, improving the
capability of consenting authorities to take decisions through the accreditation
process and improving the capability within the building sector through the
30 licensed building practitioner's regime.

So I mean that's trying to capture quite a complex regime in sort of four, under
four headings but in terms of the core objectives, I think those were probably
the core objectives.

I now want to just talk about compliance documents and I want to talk about compliance documents specifically because they were given increased emphasis in the 2004 regime as the key mechanism for providing greater certainty in a performance based regulatory regime. So they were given a particular importance in the regime. The guidance documents were also added to the suite of things the regulator could do, very clearly, but the compliance documents were particularly important.

I go to, I will if you don't mind just to refer back to something that Mr Scarry has said in relation to the building code, because I understood him to purport that the, he talked about the building code and its accessibility I think, and I think I should really just talk about the hierarchy for a moment. I'm sure you're very familiar with this, but just to, I think as part of the context. We have a building code which is secondary regulation. That's available online and it's free. We have compliance documents which are deemed to comply with the building code. They're quite comprehensive documents. They are online and they're free. You can obtain them through the Department of Building, the MBIE website. You have standards which are incorporated by reference into compliance documents. Those documents if they're produced by Standards New Zealand are online, but they're not free, they need to be paid for. They're often very, very big documents, very, very substantial documents. But I do understand that universities have these available through their system. Fourthly, you have guidance documents which is the fourth category and I just wanted to outline the hierarchy. Most documents in fact, and guidance documents would be free and online I imagine, so most documents are, all documents I think are online, at least New Zealand standards are online and with the exception of documents, standards which were incorporated by reference they're also free and freely available.

JUSTICE COOPER:

The value work of the designer though is going to be dependent really on the standards isn't it? Or do you disagree with that? The documents to which people will most often want to refer, my impression is, will be not the building code but the standards.

DR MUMFORD:

Can I refer to Mr Kelly to answer that question?

5 **JUSTICE COOPER:**

Yes.

MR KELLY:

I think they're, it's both compliance documents and standards, but yes in a
10 practical sense standards are where they take a lot of their specific –

JUSTICE COOPER:

What compliance documents would be in such frequent use as the standard?

15 **MR KELLY:**

Where we've incorporated the loading standard for instance. Sorry I'd have to
get a bit more information but I think your point is largely correct. The
standards are where the designers largely look for the detail for their design.

20 **JUSTICE COOPER:**

Yes, well I mean this is just a detail but I mean one of the things that, one of
the issues that we have to reach is the cost of the standards, so I suppose, I
mean in the law we went through a period of where statutes were available
online, but initially anyway they were an expensive thing to access and
25 anyway we needn't get hung up on this. Thank you.

DR MUMFORD:

With respect to compliance documents the regulator must take into account
the purpose of the Building Act. It must take into account the principles of the
30 Building Act. It must carry out a regulatory impact type assessment, that's in
section 29 of the Building Act. This involves the regulator in identifying
options and assessing them by considering amongst other things costs and

benefits. The regulator must notify the proposal and give persons an opportunity to make submissions.

5 **JUSTICE COOPER:**

You need to go back one I think.

DR MUMFORD:

10 With respect to New Zealand standards. New Zealand standards have traditionally formed an important part of the building control regime and I think that a little bit of the history and the important history of standards will be outlined today. It is important from my perspective to note that the 1991 reforms were however in part intended to reduce dependence on consensus based standards, and that was claimed through clearly from the report of the
15 Building Industry Commissioner at the time. So prior to 1991 the building control system was highly dependent on consensus based standards and there was an explicit intention to move away from the dependence on them.

The regulator may contract Standards New Zealand to produce documents for the purposes of the building control regime but is under no obligation to do so.
20 There was a review done in the early 1990s which confirmed that regulators may use Standards New Zealand and there would be clear value in using Standards New Zealand to produce documents to support regulatory systems, but they were under no obligation to do so. Standards New Zealand would have to enter into contracts with regulators individually for the provision of
25 standards on a case by case basis.

The regulator may incorporate standards by reference into compliance documents. The Building Act does not give standards any binding legal authority unless they are incorporated into a legal instrument such as regulations, in this case compliance documents. They may however be used
30 as evidence of sound professional practice and can be relevant in proceedings for negligence and they can also be part of the evidence base for alternative solutions I believe.

JUSTICE COOPER:

Now either Dr Mumford or Mr Kelly, this idea of reducing dependence on consensus-based standards which is evidently a description of the reasoning of the Building Industry Commission, what was behind that?

5

DR MUMFORD

I can quote specifically from their reports.

“The Building Industry Commission emphasised the important role of standards, and so they didn’t say that they weren’t unimportant, they emphasised the important role of standards but they expressed reservations over the consensus based development approach in the context of the building code and I think the quote starts here, “Complete reliance on the consensus method of creating and amending standards is not compatible with the code objectives for several reasons. That is proved to be very slow in satisfying changing needs and has tended to result in over-regulation. In the absence of a clear statement of the objectives of building controls no machinery for balancing the benefits against the costs of regulation has been developed.

20 **JUSTICE COOPER:**

Right, well some of those observations are very much of the time aren't they.

DR MUMFORD:

Indeed.

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JUSTICE COOPER:

And the idea if this was part of it that making compliance with standards not mandatory, would result in all sorts of other ways of designing robust buildings arising other than those set out in the standards has not proven to be the case has it?

DR MUMFORD:

I'm not sure I understand the point.

JUSTICE COOPER:

No well, to the extent that the 1991 Building Industry Commission thought that it would reduce reliance on standards, presumably it was thinking that people
5 would adopt some other approach than designing in accordance with standards and I'm saying that however that may have been an ambition but my impression is that designers have continued to pick up the standard and design their buildings in accordance with that.

10 **MR KELLY:**

That's correct. There have been a small number of instances in recent years where there have been some alternative approaches for instance, industry associations developing their own design and guides.

15 **JUSTICE COOPER:**

Yes, and that can be fitted in?

MR KELLY:

Yes.

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JUSTICE COOPER:

And that can be worked through but the current reality and absent some very radical change will continue to be that designers will be guided by what's in the standards.

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MR KELLY:

That's currently what they have available yes.

DR MUMFORD:30

Unless there was an alternative to them that would be absolutely correct.

JUSTICE COOPER:

So – but an alternative would simply be something other than a standard wouldn't it. It would still be a set of rules or may have a different label but people are still going to look for something which is commonly accepted as a way to go about things, for all sorts of reasons.

5

MR KELLY:

Yes what I've taken that to mean however is that there needs something more than simply New Zealand standards to investigate the benefits and costs and determine whether they are fit for purpose in a regulatory sense rather than simply a technical sense.

JUSTICE COOPER:

I'm not sure what you're talking about there. You've interpreted what to mean that?

MR KELLY:

So if go back to what Dr Mumford's been talking about, the role of the regulator for instance is to consider benefits and costs (inaudible 11:23:52) take a (inaudible 11:23:54) impact so that's in addition to setting a –

JUSTICE COOPER:

Standard.

25

MR KELLY:

A typical standard.

JUSTICE COOPER:

A standard is what comes out the end of that process presumably or ...

MR KELLY:

Sometimes in the current approach the standard comes first and that's part of the discussion we are having with New Zealand standards about whether we need to think about a slightly different process to improve the outcome.

5 COMMISSIONER CARTER:

Is that – that you've just described looking at what the outcome has been for the last eight years since this method was promoted?

MR KELLY:

10 We've started to move along different lines, so to give a practical example sometimes the New Zealand standard will be adopted by the Standards Council. The department or now the Ministry may choose to incorporate it by reference and we may amend the standard and then we have to go through a process of consultation. Now I think for all parties that's not an ideal way of
15 working so what we started to discuss is how can we do that in a different way rather than wait for a standard to be finished and then amend it if necessary and go through another process, so we asked, exploring different ways but it'd be fair to say we've still got a bit of work to do.

20 COMMISSIONER CARTER:

Would it seem not good opportunity having had eight years of this present act to have a look to see how it has been picked up and used?

MR KELLY:

25 Yes and so I'll talk a little bit further but we have taken a different approach for instance with the fire in terms of an area that was quite confusing as I understand it.

DR MUMFORD:

30 Perhaps I can just pick up where I left off and I think two points. Firstly the standard doesn't have effectively legal standing within the building control regime unless its incorporated by reference and that's quite important. The mechanism by which it actually has a legal status is through being

incorporated by reference into a compliance document. It's the compliance document is you know an important instrument and the regulator must have regard to certain things in developing compliance documents, so that's the looking at it through a regulatory lens, the regulator has to be governed by the framework of the Building Act very clearly, so the regulator may incorporate a standard by reference into a compliance document, however the regulator remains responsible for the final product. They are the issuer of the compliance document and they're the final arbiter of what goes in it. In this regard the regulator must be sure that the content of the compliance document is not inconsistent with requirements of the Building Act therefore anything is incorporated by reference must be not inconsistent with the requirements of the Building Act while the regulator must be satisfied with the whole document, it will doubtless rely on the expertise of others for various elements of it very clearly. It's not the expert body on cases, it will need to rely on technical expertise, but the regulator may very properly wish to retain close control over the policy elements and is entitled to do, and I'll cover that off just – I'll go into a little bit more detail on that. There is a degree of past dependency here, standards are in many cases the extant document which is actually used and is historically being used and within standards there are technical elements and in some standards there is what we would describe as a significant policy element. An example of that is with respect to NZS 1170, which specifies the design hazard event ie a one in 500 year earthquake. It describes the characteristics of it, in essence the design input to buildings and the expected building performance in the event of non-collapse and so effectively it represents a societal judgement around what is an acceptable risk. That would normally, that would be described as a significant policy issue and that would normally be taken by the judgement that would be made by the regulator, if you followed the legislation advisory committee guidelines that judgement would probably normally actually be taken by Cabinet, not even the Minister, so big policy issues tend to get closer to the centre of Government. Currently some of those judgements are made by standards committees and reflected in standards. You would expect that the regulator

would have a particular regard to those elements of it even if it left the technical how to achieve that through a specialist body.

5 Finally the regulatory impact assessment type exercise prescribed in section 29 of the Building Act must be undertaken in all cases unless the effect of the document is minor and there is urgency. So there's something that has to be done to a compliance document by implication to documents which are incorporated by reference such as the New Zealand standards, they have to run a regulatory impact analysis type process.

10 And then just to sum up New Zealand standards of documents produced by an authoritative body following internationally recognised policies and procedures for the production of standards which have traditionally formed an important part of the building control regime. There is no question that they are important, New Zealand standards are important, however in situations where New Zealand standards become a formal part of the building control
15 regime through incorporation by reference the regulator must exercise effective control. In addition the regulator may wish to and probably should retain close control over the policy elements in New Zealand standards that are incorporated by reference, they may choose to take the policy element out of the standard and deal with it separately and leave the standard just as the
20 technical how to document. The regulator may contract Standards New Zealand to produce technical documents, but is under no obligation to do so. We expect that New Zealand standards will however continue to play an important role in the building control regime as technical how to documents.

1130

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JUSTICE COOPER:

Q. This distinction between policy elements and how to elements is a distinction which I infer from what you're saying that may have become blurred in the past. Is that fair?

30 A. Yes that is fair. It has become blurred in the past but there are historical reasons for it. These documents have traditionally been made by Standards Committees. They have always made these judgements. It's a matter of consciously recognising that Standards Committees have

been taking these judgements on significant policy issues in the past and they're reflecting what we should do in the future so it's not a criticism of the past. It's reflecting the reality of the past. The question is what should the building regulator do in the future.

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MR KELLY:

If I was to add to that, the other context is that prior to the 1990s there was not a central regulator so individual local authorities were adopting New Zealand standards so there wasn't another body to refer to and so hence since that
10 time the shift has been, albeit slow, towards trying to, certainly in the last few years, trying to separate what are policy judgements and should be subject to potentially cabinet approval versus technical how to.

HEARING ADJOURNS: 11.32 AM15 **HEARING RESUMES: 11.49 AM****MR ALLAN:**

We'd got to the point where an exchange with His Honour Dr Mumford you were discussing the really fitness for purpose issues in a regulatory sense and
20 the role that standards might have to play in that context. Now is this something that you're going to address in your part of the presentation Mr Kelly?

MR KELLY:

25 Yes I hope. Yes I will.

MR ALLAN:

Had you finished on your slide Dr Mumford or ...

30 **DR MUMFORD:**

Yes I have.

MR ALLAN:

If you can take us on Mr Kelly.

5 **MR KELLY:**

With that context and background from Dr Mumford what I wanted to talk about is a bit more detail about how the current regulatory system is working from our point of view and there's some examples where appropriate.

10 The first point is that from the Ministry's point of view we don't believe there's a systemic issue of the current building regulatory framework but there are areas that need some improvement.

The next point is that in our view the Building Act clearly sets out the roles and responsibilities, including those of the Ministry as regulator but it would be fair to say that the roles and responsibilities are not well understood across the
15 sector and there is some confusion about roles and responsibilities. And this is an issues that is being addressed with further clarification of the roles by way of the Building (Amendment) Bill in particular trying to clarify the accountabilities of the various players in the system and there was plenty of evidence in previous analysis of the Building Act to suggest that some people
20 are not clear about their accountabilities and they're passing them off but this will require a very strong communication and education approach. I think part of the current lack of clarity is because that communication and education has not been sufficient.

25 **MR ALLAN:**

There have already, have there not, been amendments to the Building Act incorporating responsibility statements that would apply to designers, builders, owners, building consent authorities?

30 **MR KELLY:**

Yes, yes there have been but there are other areas that may need further clarification. For instance those that provide products, product suppliers, product manufacturers.

In terms of the Ministry's role we are committed to exercising our leadership role in a responsible way. As the regulator we do have a role, as Dr Mumford has talked about, to have regard to both cost and benefits and also transparency in decision making. One further point I'd make there is that

5 Ministers have made it clear that they have an expectation of the Ministry in terms of how we undertake our work that we do address benefits and costs in a way that's much more open to scrutiny than might have been the case in the past.

We have a significant work programme arising not only from the Royal

10 Commission but from other work that we've done in Christchurch and we will need to carefully prioritise and choose the most cost effective way of working to achieve the right outcomes.

Just a little bit of information about the role as regulator and how the Ministry has over the last few years taken a leadership role. The implementation of

15 the Building Act over the last seven to eight years securing buy in to the overall regulatory framework that's showing it's fit for purpose, leading the review of the Building Act in 2008, 2009 and progressing those reforms. Part of that has been a very strong and extensive sector engagement and I think it's fair to say that the sector in general is supportive of the reforms, albeit that

20 there is vigorous debate about some aspects as we go through. The general direction is strongly supported by the sector. The Ministry has also shown strong leadership in the Canterbury setting particularly in responding to the initial earthquakes and then working to support the rebuild. I referred earlier to some of the critical areas that we've looked at and I mentioned the Fire

25 Code clause but another one that was early in the Ministry then the department's role was the weather tightness E2AS1 that was one that the Ministry led very strongly and more latterly in response to request from the timber industry is reviewing requirements for treatment of timber. So there's further areas of identification for a more efficient system and I refer there to

30 the multiple use approvals which is where the Ministry can provide a service for group home builders that are building very much the same house across the country. They can get one approval that is used across the country and

again sector education information is an area where we're increasingly putting more emphasis.

5 Just briefly talking about the Building Act review 2009. The findings from that which the Government has accepted is that system is not broken but there were definite opportunities for improvements. I've talked a little bit about ensuring that the responsibility sits in the right place. It also identified, however, that there are some weaknesses in consumer protection and particularly there I am talking about homeowners rather than commercial
10 building owners. The system is out of balance and there's an undue reliance on building consent authorities and with some designers even saying that they rely on the building consent authority to identify their mistakes and fix them. So there is an important need to change the culture and behaviour across the whole system and to be clear that rather than rely on the regulator or the
15 consent authority to pick up everything that the designers and builders have and in fact property owners have an important part to play so the reformed programme which is over a number of years is addressing that in a systematic way.

20 **MR ALLAN:**

The need for change in culture and behaviour across the system. Just looking back to your earlier comment that you agree with the Commission that there's no systemic issue. Do you mean by that earlier comment that there's no issue with the overall regulatory framework or the model that's been adopted but
25 there are issues to work on within that framework?

MR KELLY:

That's correct. I think our view and the review suggests that the system is okay but it's the implementation that needs some more work on it and I think
30 as we've gone along we learn from what's put in place and whether it ends up having incentives that you may not have intended. For instance a much stronger role from the consent authorities has, in our view, has resulted in some of the designers sitting back and relying on that system rather than

ensuring that they do their job. So that's part of the learning and part of adjusting as we go along.

JUSTICE COOPER:

5 I'd just like some clarity about what you're saying you agree that we've said. Is this a reference to the first stage of our final report or ...

MR KELLY:

Yes, yes.

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JUSTICE COOPER:

Because with discussion papers that went out prior to these sessions they were just tending to raise issues. There was no view being expressed in any of them but we certainly did have a look at the policy content of the existing
15 building standards, 1170.5 and so on, the design, the level of earthquake risk and how that is dealt with and so on and we did express the view that the system generally does achieve the purpose that is set there, whether there is to be a policy shift from that would depend on decisions made by the Government but we didn't see the need for there to be such a shift. Thank
20 you.

MR KELLY:

The next few slides are largely in response to some questions that came from the Commission. This one is around what benefits, if any, do we think there
25 are from the merger of the Department of Building and Housing into the Ministry of Business Innovation and Employment. We believe that as listed there, there are a number of benefits including focusing on supporting an effective business environment. That's one of the central reasons for setting up the Ministry and in an environment which can deliver quality homes and
30 buildings through a sector which has the right skills and information, so more broadly through the Ministry there is a focus on the education sector and an ability to join up through that part of the organisation. There's also an ability, or there will be establishing of a critical mass of policy and regulatory

expertise which is much broader than the department had access to. It will also bring together key parts of the Government system under Crown entities and listed there the Standards Council and IANZ for instance will come under the same umbrella rather than coming under different ministries or departments. A greater capacity to provide information, advice of education, I've referred to that already twice. This is a critical part of the delivery, if we think the Ministry will provide much greater capacity to undertake. And a strong focus on business and market effectiveness which will be important drivers for the sector, because as I referred to earlier it isn't simply about regulation, it's also about a strong market that's able to deliver what consumers need.

JUSTICE COOPER:

That second point, establishing a critical mass of policy and regulatory expertise. Is that the result of putting building in with the other matters on which the Ministry of Business Innovation and Employment will be focusing or is it – are you saying something else there?

MR KELLY:

What I'm saying is that if I just focus on the regulatory side, across the broader Ministry there's a much greater depth of knowledge and expertise that we will be able to draw on. Simply that the critical mass allows some specialisation in areas that we haven't been able to specialise in and the ability to call on those people who have also had experience in other sectors and other industries we think is of tremendous value. Dr Mumford.

JUSTICE COOPER:

Yes.

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DR MUMFORD:

I think that the bringing together of the building control function with the occupation of health and safety function with the electricity and gas safety

functions, which is the practical effect of that, is that you have much greater knowledge and expertise in issues of regulatory design and regulatory implementation. Clearly your regulatory system ultimately needs to be tailored to the sector that you're regulating whether it be work places or whether it be buildings but there's a body of generic knowledge that informs that around risk-based regulation for example. There's capability which is generic and an inspector is an inspector at one level. Now they'd need to have a general body of knowledge as an inspector as well as specific knowledge in relation to say building or workplaces and it will capture that. It'll bring all of that knowledge together in one place whereas before it's been quite dispersed across quite a range of different agencies, each effectively at one level doing their own thing.

MR ALLAN:

But that response you've just given may in part answer what I'm going to ask, but I'm wondering if you can comment on the effects of the merger into the Ministry upon the capacity for issues or trends to be communicated to the chief executive and reflected in amendments to the code or to supporting compliance documents?

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MR KELLY:

There is a particular part of the proposed structure that brings together a much greater research and information gathering capacity. The Department of Building and Housing had a relatively small and limited capability or capacity there so there'll be a significantly bigger group that will be working as one but will also have areas of specialisation so I think that will very much be the case, certainly that's the design intention.

JUSTICE COOPER:

What would the work of that group be as currently envisaged, or can you not say?

MR KELLY:

I can't say at this stage. I think there's a lot of work to be done, we've only just had – put out a proposed detail design so – and then beyond that there will be consultation and decision making and then the work of that group will be worked up from there.

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JUSTICE COOPER:

Well just repeat what you said to Mr Allan then. You did actually say what it was going to be generally working on, was it policy and code development, did I hear those words?

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MR KELLY:

Not from that group. There is a group that will be looking at research and a valuation and gathering of information that will inform and then there is a – there are proposed three policy groups across the organisation including one that includes the building controls and regulation site, so the design is intended to have stronger feedback loops.

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DR MUMFORD:

I might just make an observation. The new Ministry will have a much more significant and well resourced research and evaluation function. The decisions about how that will be deployed I think is not – is still being worked through at the moment so it is a question of I think the Ministry working out what its priorities will be and that's sort of an implementation issue. I think the important – but the point I think that Mr Kelly and I are making is that with the new Ministry we will have critical mass across a range of different areas, research and evaluation, regulatory capacity, policy capacity that is vastly superior to what you'd actually have in the disparate agencies that have actually been brought together. Is that correct?

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MR KELLY:

That's correct.

MR ALLAN:

I think later on in your presentation too Mr Kelly you talk of other modes through which the Ministry might keep abreast of issues and trends including through chief architect, the transition from alternative solutions to acceptable solutions and otherwise?

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MR KELLY:

That's correct. The next area I think we've covered fairly well under Dr Mumford's address, so I'll go through this reasonably quickly but the first point is that New Zealand standards are a key part of the toolkit and we will
10 continue to work with standards to ensure that critical standards and parts of standards are updated and it says we will be, we are talking with New Zealand Standards about their approach and our approach and how we can get that into a timely and effective manner, but the critical issues for the Ministry are timeliness, quality and the issue of accessibility for the public and strong
15 feedback from design practitioners that they prefer that to be at no cost so the issue of funding is one that we need to address and that's being considered as part of the standards and performance review. I'm not leading that work. I don't know what the result is and I'm probably limited in what I can say about that but it is an issue that's being considered.

20 There was a question around the use of volunteers and their place in the development of industry standards. They do have a place although I think what will be noted is that people who are described as volunteers are often, or normally paid for by the industry as I understand it in most part. But what is important from our point of view is that those critically important standards do
25 have the appropriate experts and in some cases that means that they may need to be paid directly if they're not being paid by their own business. I don't know how big an issue it is but certainly where we've commissioned work directly we have tried to access the very best people available.

30 **JUSTICE COOPER:**

Volunteers are paid for by industry. Does that mean that people come along and they're still being employed?

MR KELLY:

Yes as I –

JUSTICE COOPER:

5 Paid their way, but we hear on all sides how pressured that system is that the engineering profession, not just Mr Scarry who's saying this, it's others who have spoken of the pressure that comes on people in terms of fees generated and so on, how difficult it can predictably be for the future for this kind of cottage industry approach to continue, that's an issue that's recognised is it?

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MR KELLY:

It is and that's – you've probably put in more elegant terms what I'm trying to say here is that it is an issue. People who are employed, if I think about engineering consultants, they do need to generate fees and some of this work
15 whether it's through a standards committee or working directly with us can take up a considerable amount of their time and they are not in a position to provide that free of charge. If we want the best people we may need to pay.

JUSTICE COOPER:

20 The other thing that you'd get by setting things up in a more business like way if I may use that expression, without wanting to be asked what I mean by it, would be that things might be able to happen on a more timely basis. I imagine as a layman that it must be quite difficult for standards to be developed and reviewed when you are relying on a committee of some size all
25 being available at a particular time.

MR KELLY:

It is probably a question that is better answered by Standards New Zealand, yes, I'd be sort of speaking out of ignorance really.

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JUSTICE COOPER:

Well, we know that we've had evidence about how long these things take.

MR KELLY:

Yes they can, I think if can refer to the work that the Ministry has been involved in, in Canterbury where it has been of necessity that we have to move quickly, employing the engineering advisory group directly has allowed
5 us to move much faster than a normal process.

JUSTICE COOPER:

Yes.

10 COMMISSIONER FENWICK:

Do you feel you get the right volunteers or do you just get the volunteers where the industry is prepared to pay for, to attend to be volunteers in which case is there a danger that the standards are being set by people who have a potential benefit from changing the standards in certain ways, you know, it is a
15 real issue?

MR KELLY:

Yes, I think that's a – I will give you the Ministry's view and I think it's probably a useful question for the panel this afternoon to get Standards New Zealand's
20 view but we believe there is a danger of that at times, that, where industries have a particular desire to put forward a view then they, there is the danger that they can influence the outcome. Certainly the suggestion from industry itself that in terms of untreated timber that that played a part, that sectors of the industry wanted to promote a particular view and that they were able to
25 use the system to get their – so that's their view, it is not something that I've come to through my own thinking.

COMMISSIONER FENWICK:

It is a wide spread view –
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MR KELLY:

Yes and so I think in terms of those checks and balances we believe it is important to make sure there is the right representation. It puts a particular

emphasis I think on the person chairing the standards committee too, quite a strong emphasis on someone who can manage that process and not let the loudest voice if you like sway the final decision.

5 **COMMISSIONER FENWICK:**

The other issue is, you probably get people on the standards who have retired 'cos they can afford the time and perhaps it should be a different group setting the standards rather than people who have, are through their useful working time if you like.

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DR MUMFORD:

Can I just make if you will permit me to make one observation and we are doing a review of the standards and conformance infrastructure now, we are consulting on that. We also pick up the issue, the concern around the speed, we pick up issues around the balance of committees and the nature of expertise and the possibility that the people who are paid by their firms will have a preference for what suits their firms. I have to say that we haven't picked up any tangible evidence of that. They are assertions that have been made and it may well be that you are picking up very tangible evidence of that but they are assertions that have been made and at the moment because we are quite evidence based we actually haven't found evidence to support the assertions. There is the view for example that volunteers are paid for by the industry. Well clearly not all volunteers are paid for by industry, I mean Pieter Burghout may well correct me if I am wrong but Branz for example participates in a lot of committees and Branz representatives are neutral, they are paid for through the building levy and they are experts in their field and they provide balance so the important feature of standards committees is they try and achieve balance so not one interest dominates over another interest. It is clear that if we have got expertise that sits within consultancies we need to capture that, that is the reality of it. We will have people who will be paid for by industry or otherwise on committees. The importance is to get balanced committees so all of those interests if they are, get sort of weeded out through the process of consensus building. Now that is a general observation, I am

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quite sure, the standards council will be able to talk much more specifically about that but I am anxious that we don't leave an impression at this point that in fact there was something fundamentally wrong with the standard system without clear evidence to demonstrate there is something fundamentally wrong with the standard system and that is sort of what it is starting to sound like, you know there is something wrong with the standard system we have biased committees producing poor quality standards. I am quite sure our standards organisation will probably seek to rebut that and I have to say we just haven't picked up a lot of very specific evidence to support that proposition. It is a clear risk, it is an ongoing risk and it needs to be managed. The question is whether in fact that risk is being crystallised at this point in time in what standards committees do and I am not sure about that.

COMMISSIONER FENWICK:

There is another risk as well in that the requirement for them to pay their way and get their standards out, I can tell you puts incredible pressure on the people who are trying to write those standards in terms of time commitment and just the straight pressure from above and standards to get something out regardless of how good it is. So I mean there are other issues which come up which I am certainly aware of.

JUSTICE COOPER:

So just arising out of what you've said Dr Mumford there, is the – well is it envisaged that the Ministry would have more of an influence on getting the personnel right than in leading or directing what might substantively be the content of relevant standards?

DR MUMFORD:

I think I will ask that question in two parts. Certainly the review of the standards and conformance infrastructure is focusing on the long term sustainability of the standard system which we, has a lot of value associated with it and so the issues that have been identified are ones that we will need to work through and ultimately will need to be reflected on how we think about

the nature structure and funding of the standards organisation and we will be reporting to our Minister at the end of October initially on that to give you some timeframes but we will be waiting I believe until the Royal Commission reports because we will want to take into account what the Royal Commission

5 has said before we reach a final view on some of these matters and that is not just to do with buildings, it is across the board. The specific question you answered then I think I'd need to refer back to my earlier dichotomy. I think it is reasonable that a general proposition to leave the responsibility for the development of technical documents to those that have technical expertise.

10 The responsibility of the regulator is to ensure that the policy content, those judgements around for example, what is an acceptable risk, the performance requirements clearly specified that is probably the responsibility of the regulator not of the standards committee. The standards committee needs to be given clear direction as to what the standard needs to deliver and the

15 experts are left, given the responsibility for the most part for working out how best to deliver that based on best practice principles but again I need to refer to my colleague just to make sure that I've got that correct from a building regulatory perspective, that is correct from a general regulatory policy perspective but it is correct from a, specifically to the sector.

20

MR KELLY:

I think it is largely correct although there will be times where there may be technical solutions that we would still question whether it is necessary in terms of cost.

25

COMMISSIONER CARTER:

Does a regulator, will decide the time that is reasonable to have a new standard developed, will they, because the industry grouping may not be assessing the cost benefit which you've said is part of your duty as a regulator

30 to assess that, so I just put it in the context of Christchurch itself at the moment. The benefit of getting the standards amended so that they can be applied has a considerable cost benefit importance and so it would be the regulator that decides that and if the standards are not being produced quickly

enough it will be your role to see that they are funded to, to actually get on with the job and get it done. Is that a reasonable assumption?

MR KELLY:

5 Yes if we choose to use standards for instance which in many cases we do, we do want to have a chat about how quickly can this be done? What is the cost, how quickly and be clear about some of the parameters of what's needed to benefit the purpose. So yes it is our role to drive it.

10 **COMMISSIONER CARTER:**

Thank you, that's what I had gathered as being the intent of your comment.

JUSTICE COOPER:

15 I'm still not clear whether except in the slightly negative terms that you put it Mr Kelly, a few moments ago, it's envisaged that the Ministry would have an influence on the substantive policy content of a, well sorry, on the substantive content of a standard so that there's an issue that comes to the attention of the evaluators and information gatherers in the new Ministry that they
20 consider should be the subject of a rule just say a rule, something that people building buildings are going to have to conform to. Is that something that's going to be left to the experts or might the Ministry say, "Well, we need to have a rule about that." What we would generally do at the beginning is agree what are the broad issues that need to be covered. We do rely heavily on the
25 experts that are doing the work for the technical content, but in many or most cases we all have someone sitting on a technical committee as part of that work, so it's not completely hands off. So we should be picking up issues reasonably early in the piece and expressing our view if we think there is an issue to be addressed. So it is a, it needs to be a close working relationship
30 for it to work. See there's a gap, or some would say there's a gap in the current system whereby the standards are developed using expert assistance, and they are produced as standards employing the administrative capacity of

Standards Association or Council, whatever the right term is. But where is the agenda setting? Who's responsible for that?

MR KELLY:

5 It's the Ministry's role to set the agenda. We do that through a variety of ways of trying to gather intelligence about what are the issues, including from Standards New Zealand itself which will have a view on it.

JUSTICE COOPER:

10 But do you say that's currently the case? That's a feature of the current system?

MR KELLY:

Yes.

15

JUSTICE COOPER:

Has it worked?

MR KELLY:

20 I think it's largely worked, but we are I think it's difficult to differentiate that from the broader system. From our point of view it largely works but there are issues around funding and timeliness and there's another discussion that is a part of that is we have a very large number of building and construction standards and the question in our mind is how can we maintain their currency
25 given the large number, or do we need to have a fresher look at that system, and our view is we'd need to just have another look at the system to see whether that's sustainable. Well to explain that there is something like 650 I believe construction standards. Now we don't cite all of them but the ones,
30 of ones that we do cite, so there is a question in my mind about the sustainability of having that number of standards.

JUSTICE COOPER:

So you think there might be scope for reducing the numbers that are over specified at the moment?

MR KELLY:

5 I believe so and it's built up over a number of decades and probably each in their own right there was a good case for it, but when you look at it in totality I think that raises an issue.

JUSTICE COOPER:

10 Well you're, and please don't take this critically but the way you're describing it, it's something that appears to have happened and that suggests that the Department of Building and Housing and its predecessors let it happen.

15 **MR KELLY:**

Well I think if we go back again before the 1990s there was no predecessor, so that's what I say. These have been built over many decades with I think the right intentions. It's really since the Department of Building and Housing was formed eight years ago that we started to turn our mind to some of these
20 things.

JUSTICE COOPER:

Well it may suggest to some that there needs to be more of a guiding hand.

25 **MR KELLY:**

I think that's fair enough. I think that's a fair statement.
Again I think we've covered a number of these areas. I think the second bullet point, the Ministry is committed and has a responsibility to improve the clarity and accessibility of the code as it's recently done in the case of the fire clause,
30 but I think there's plenty of feedback to say from a practitioner's point of view accessibility in terms of understanding and cost is something that they're concerned about. We do have a responsibility to ensure the integration of code performance requirements if any acceptable solutions or verification

methods, and I'll come back onto that, and they may include industry documents and/or New Zealand standards. And we need to find the right balance between performance based codes and the use of standards to support acceptable solutions and verification methods. Priority areas for updating have been identified and confirmed so that goes back to your point, both Commissioners' points.

This was a question around clarifying the role of verification methods and acceptable solutions. They do need to be approved by the regulator and as Dr Mumford referred to earlier, Professor Burroughs has provided some advice on the role of the regulator and responsibility under the Building Act in particular, and we've traversed that earlier. But we also need to recognise the skill sets in the sector and their capacity to exercise judgement and where there is a less capacity there is the need for more prescription and I think that was a point earlier as well for many in the sector. They don't, while we have a performance based code they don't want to reinvent the wheel, so they are looking for standardised solutions. And in terms of funding, the Ministry funding's through the building levy. The work to update standards, but it's also used for a number of other requirements under the Building Act so it's not simply for New Zealand standards.

This section was in relation to a suggestion that a national policy statement should be developed. We, in terms of our understanding of a national policy statement, we don't see the need for one. The policy direction is set out in the Building Act and the building code. That's where the policy direction is set and policy decisions are made by Government and then reflected in the Act and the code with legislative change made by Parliament, so we don't actually see the need for a system level national policy document as we would understand it. We think those elements are already in place.

The other explanation, as I understand it, was that national policy statement may have been referring to setting out a future work programme, and if that's the case we would agree that we should be setting out a clear work programme so that people know what's coming up and where people can submit where they think we're not addressing the right priorities. So we're committed to doing that. We did this in fact in the Building Act Reform

Programme, we clearly set out what the issues were and the work to done to address it, but the final decision maker on the work programme is through the Minister. That's the mechanism through the accountability document regime and the output agreement. So the Minister specifies to the Ministry what he or
5 she is expecting and that's, so that's agreed.

I have noted there that funding's limited so we do need to be clear about our targets to do the right things and probably a repetition that the building levy is for those purposes as specified in the Building Act.

The next area was a question around the role of the chief engineer and chief
10 architect. These are roles that we established about three or four years ago. They are high level technical leadership roles and advice to the Ministry and guidance to the sector. They need to develop a critical understanding of future and current trends so they are part of the agenda setting in terms of identifying issues that we should be – we should see coming up and some
15 expectation that they are authoritative and have credibility with the sector. They both – there's a question of whether they are strategic or technical, they are both. They need to be technically expert and be able to see beyond the presenting problem and see within the context of strategic direction to secure the right outcomes. And just a final note that in the new proposed structure
20 both of those roles will continue.

COMMISSIONER CARTER:

Do they exist already David?

25 **MR KELLY:**

Yes. They were established in 2008.

JUSTICE COOPER:

Mr Stannard.

30

MR KELLY:

Mr Stannard is the chief engineer and Mr Joiner is the chief architect.

JUSTICE COOPER:

Does that – the chief engineer specification, you don't envisage that changing, at the moment?

5 **MR KELLY:**

Not at the moment, no, what we look for is someone with extensive knowledge and contacts, in a building and construction sector and that's the critical thing. They do need to have authority and standing. That's the thing that I've particularly looked for in that role and someone who has credibility.

10

JUSTICE COOPER:

If you were going to, if there was going to be more of a guiding hand to use the comfortable expression that I used before, in terms of standard, the development and so on, the input of the Ministry to that would be channelled through the chief engineer would it?

15

MR KELLY:

Yes, the chief engineer is meant to be our highest level technical specialist who also has a strong strategic overview of what's going on.

20

JUSTICE COOPER:

And that person, the role is specified in the statute at the moment isn't it?

MR KELLY:

25 Chief engineer?

JUSTICE COOPER:

Yes or is it not?

30 **MR KELLY:**

No.

JUSTICE COOPER:

It's the chief executive only.

MR KELLY:

That's right.

5

JUSTICE COOPER:

Would there be advantages in telling the chief engineer that he had certain statutory responsibilities?

10 **MR KELLY:**

I'd have to think about that. So the final few there are really a just a further explanation and just a note that arising particularly out of Christchurch the chief engineer was supported by an engineer and advisory group of a number of highly experienced and highly regarded technical experts which I think has been a very valuable addition and one that we're looking to make sure continues and is in a more sustainable basis, or an ongoing basis, I should say.

15

JUSTICE COOPER:

20 When it comes to making limited funds available, you'll have to tell me because I've never been in Government but I assume that if you can point to some statutory responsibility to do something that must, 'cos that's Parliament's idea of what should happen and that must be influential when it comes to cutting up the cake?

25

MR KELLY:

Yes if there's a statutory requirement.

JUSTICE COOPER:

30 Okay, thank you.

MR KELLY:

This question was around how the Ministry goes about identifying issues and trends, and how that's reported. There is a regular risk report and a regular process of reporting to the Minister, on key indicators. I would say that this is an area we're looking to beef up as per the earlier discussion, is to get some more grunt in terms of our ability to identify and gather information. We have a website with, and we have various targeted newsletters through which we transmit information and trends and communicate. We've also, going back to the training and education that's an area that again we've got a greater area of emphasis, but managers from across the Ministry and particularly from Building and Housing would intersect with the sector at least once a week and we have representation at all the key conferences, either in a speaking capacity or as an observer capacity. That's an area that we consider is really important and put a considerable amount of effort into and I think from the sector has been I think recognition that that's been an area we've got better at over the last few years.

Will this change with MBIE? It's not intended to, as we've said earlier there should be a greater research and that's a capacity and capability to develop more systematic recording of the key indicators from the sector and the discussion earlier that Dr Mumford was talking about is that merger will bring access to employment and skills data as well as immigration patterns et cetera which will help us in terms of skills and that's playing out right now in Christchurch in terms of thinking about what the demand is for skills and where they might be accessed from and coming under one umbrella even in the early stages has proven to be useful in terms of sharing information and priorities.

MR ALLAN:

Now Mr Kelly you mentioned the systematic reporting of key indicators from the sector. In the previous slide you spoke of a regular risk report. Is that a communication to the sector or is that from the sector upwards and internally through the Ministry?

MR KELLY:

It's largely been internally but we would envisage it being external as well. I think that Dr Mumford may have further information, I think it's inconsistent across the constituent parties at present.

5 **DR MUMFORD:**

No I have no specific comment to make in this area. I have a general comment to make within the context of the policy underlying the 2004 reforms which was clearly intended to improve information flows to and from the regulator in terms of trends and issues. That was seen as a critical issue to
10 identify emerging risks and actually emerging opportunities as well with respect to the sector and to reflect that in the building control system, and from a policy perspective I see that what has been put in place through the Ministry will strengthen the ability for that specific obligation on the chief executive which is contained within the Building Act to be discharged.

15

MR KELLY:

The next was in relation to a question around how will alternative solutions
20 might move to acceptable solutions. Because of the vast range of specific reasons for alternative solutions our analysis and experience is that it's unlikely that a true alternative solution will become an acceptable solution because they are generally unique to a particular situation. However we do check the alternative solutions and update from time to time to see whether
25 there are aspects that have changed and developed and that they can be essentially codified into conventional practice. I don't know that there's a lot more I need to speak to in that area but we do look to gather good ideas from practitioners and analyse queries that come through our building standards team to see whether there are some trends that people are asking the same
30 question again and again.

Just a point here that true alternative solutions are relatively rare. What we mean by that is in many cases what someone talks about as an alternative

solution, there's probably large elements of an existing solution but there are small elements that are not.

In terms of the Building Act it sets out the process for revision of compliance documents and including the requirement for consultation and we've talked
5 about that earlier. What one area that we have done a little bit of work is thinking about acceptable solutions by building type. The one that we've done is around a simple house and we're looking at whether that would be useful in other areas. For instance in medium density housing.

This question was around the role of the Building Advisory Panel. The Chief
10 Executive appoints the panel and the members of the panel cover a range of disciplines and organisations relevant to the building construction industry. There have been changes in composition over time. Panel members are limited to two terms of no more than three years, and my experience with that panel is that there is active discussion of critical issues related to the building
15 and construction sector and is active encouragement for them to bring their insights, their knowledge from the sector to the table. An example there was around the guidance for repairs for weather tightness and also the Building Act reform programme was informed by some of the thinking of the Building Advisory Panel.

20 The Chief Executive must consider the panel's advice but is not bound by it. It has been a useful vehicle in our experience for gathering sector intelligence which has then informed the content and implementation of various activity.

This question was around construction industry, Council and Branz and their role. The relationship with the construction industry and Council and Branz
25 has historically been through Chief Executive and the relevant Deputy Chief Executive. I have for instance been a regular attender at the construction industry council meetings which is very useful. I think a conduit for information both ways and in the role I was previously I was also on the Building Research Advisory Council as a member. So there is a definite connection
30 there but the role that the Ministry has taken that in terms of Building Advisory Panel they should be individuals rather than representatives of organisations on the basis that they should be bringing their own knowledge of the industry rather than a viewpoint from a particular industry or, sorry, a particular

organisation. That has been the view and that the way that the panel works is that there should be free and frank discussion. The Chief Executive wishes to hear from the sector what their concerns are and also to be able to put the Chief Executive's perspective in the context that surrounds it so it is intended to be a free and frank discussion and my experience of it is that it has been so.

JUSTICE COOPER:

Was the Ministry a beneficiary of legislation when it was created or was it just created by the prerogative and subject to the normal rules that Ministries are subject to?

DR MUMFORD:

Yes that would be the case. I don't believe that there was legislation established (inaudible 12:42:19). The Department of Building and Housing I think you're referring to.

20

JUSTICE COOPER:

Well I'm thinking of the Chief Executive of what is a very big Ministry. Presumably most if not all of these powers that you're now discussing are going to be exercised by a delegate are they?

25

MR KELLY:

Yes.

JUSTICE COOPER:

30 You Mr Kelly or ...

MR KELLY:

I don't know where I'll end up. I would expect that for some of these powers it may well be delegated to one of the Deputy Chief Executive roles which themselves are very large and responsible roles so it would not be delegated too far down I don't think.

5

JUSTICE COOPER:

It's too early to say. There's still a lot of bedding in going on?

MR KELLY:

10 Yes there is and still appointments to be made to a number of the senior roles. I think this is a little bit of repetition really but the Building Advisory Panel's not a decision making body. It's an advisory body with input to the Chief Executive who is obliged to consider the panel's input but not bound by it.

There's a question around the Ministry's powers. This I think picks up from
15 some of the earlier presentation from Dr Mumford that there is a power to ban products. That has never been exercised to date.

There have been no products that have been banned. There's also the power to initiate a Chief Executive determination and there have been two of those. One most recently was around the power of, um, or whether a part of the
20 building can be defined as earthquake prone as opposed to the whole building and this was to allow Councils to make decisions because they were unclear about whether they had that power or not. The other one was around the height of a ballustrade which was the subject of a coronial enquiry and the exercise of dangerous building powers. So those are the two we've had to
25 date. I think our view is that this is an area that we could usefully exercise more rather than less. Other than those two all our determinations have been brought by parties to the issues, usually a consenting authority or a building owner.

This is a question around where we are at in the system with risk-based
30 consenting. The Building Act has allowed for risk-based consenting and in particular relevant to here I think is the commercial consenting process and what we envisage is a much stronger quality assurance process that will be developed through regulation which will provide, we believe, a much more

robust process and not simply rely, as I referred to earlier, so strongly on the consenting authority to pick up issues. We have pilots that are underway in Christchurch and Auckland that we will learn from and help us to design the regulatory framework and put in place the appropriate regulation.

5

MR ALLAN:

Has the Building (Amendment) Act enabled the Ministry to promulgate regulations enabling risk-based consenting?

10

MR KELLY:

It has but we haven't promulgated that yet. One of the key issues that was identified in the work in 2009 was that as part of the system certain things needed to wait. They needed to have some pre conditions met, including skills of practitioners where appropriate. So a part of that is looking at the whole system and we've got some work that's commencing now. I'm thinking about the overall consenting system including risk-based consenting because we need to do the two together.

15

MR ALLAN:

20 Because risk-based consenting brings with it elements of judgement that require particular expertise within the consenting agencies?

MR KELLY:

It does and that's where we're bringing together some other thoughts that I previously presented to the Commission some months ago about centres of expertise so particularly for highly complex buildings. Not every local authority has the necessary capability so there are two options there. One is this idea of centres of expertise. The other is the power that Mr Mumford referred to earlier for the Ministry to call in particularly complex buildings which we haven't exercised that provision previously but as part of the overall regime we'll be thinking about whether that's appropriate and whether we have the capability to deal with it.

25

30

This question was around the Building Consent Accreditations process, whether it has improved consenting process. The evidence that we've gained is that the initial accreditation process has considerably improved the management of the consenting system, that it has lifted the skills and
5 consenting systems that in many cases didn't exist at all and it's listed to a certain level. However, as I've just referred to in answer to the question, we now are considering what is the next stage in that and how does accreditation fit in with that and part of the question that is raised there is whether we need the number of consent authorities we currently have or whether there should
10 be either amalgamation or joint services so that's part of the overall system design that we're now starting. There is a question around consistency of decision making, in fact considerable feedback from designers, particularly group home builders around inconsistent decision making across the country for pretty much the same design. So in terms not just of safety but also
15 efficiency that consistency is important so people know firstly what they should be putting in in terms of their consent and then reasonable expectation of what will come out the other side. That isn't so much the case for the complex commercial buildings because they tend to be unique and that's why the quality assurance mechanism is the one that we think needs considerable
20 effort. It's the end.

COMMISSIONER FENWICK:

25 The Department of Building and Housing has had an eight year period, yet started off by saying, I think Mr Mumford started off by saying the idea was to have a section which was adequately resourced, or well resourced. Now would you believe the Department of Building and Housing, the part which is dealing with commercial buildings, structural area, would you say that has
30 been adequately resourced, and can it be adequately resourced for issues which arise, such as the use of precast flooring, or is there a need for change there and to get people who perhaps have some level of expertise in terms of practical design or research or something like this, and I'm just aware that

there have been difficulties over that period and I'd just like your comment on whether you see there's a need for change there?

MR KELLY:

5 I think in the initial stages of the Department there was a strong emphasis on weather tightness because that was a crisis and it was in part the reason the Department was set up. So there was a very strong emphasis on that. As the situation changes I think we will need to continue to think about where our greatest emphasis needs to go, and certainly out of Christchurch and the
10 earthquakes, that's got a much stronger focus on the structural area. The question I think is about how we resource that and what's the balance of people we need to have within the organisation versus how do we draw on the best people from the sector and I think that's the challenge we're working through. I referred earlier to the engineering advisory group that's supported
15 the chief engineer Mike Stannard. I think that's a process that's worked really well and I think it's demonstrated its benefits now. It hasn't all been smooth sailing at times but in terms of having that as a more sustainable model, that's part of the thinking as to how we get the best access to those people because I don't believe we'll ever be able to retain on staff the best, necessarily the
20 best designers because they will have a different view, and it may not be an attractive career option for them. But being able to contribute, I think, is something that they do see is valuable, so that's, that's where we're working through. And I think that will continue to evolve and there'll be something else that will come along in the future where we'll need to be adaptable. And that's
25 part of our issue as well that we need sufficient critical mass without being too big that we can't actually change and resource differently.

COMMISSIONER FENWICK:

Yes, certainly there are issues with the loading standard 1170.5 where it took
30 three years to consent, almost due for revision before it was consented. It was a very long process which actually impacted on other standards as well.

MR KELLY:

Yes it did, yeah.

COMMISSIONER FENWICK:

5 So it would be nice to think that some of those issues could've been perhaps accelerated by employing appropriate staff.

MR KELLY:

10 Yes. That came through early in my time with the Department. It had been around for some time by the time I got there and yes I think in hindsight it probably, the work wasn't done to anticipate what was coming along. I think that was the issue as much as anything, and then saying or thinking about who do we need to help us do our part of the work. So I think there was a little bit of a lack of planning there as well. But also thinking about what are the different models that we can take. And it also goes back to a previous
15 comment about how do we work with New Zealand Standards in terms of the end to end process?

COMMISSIONER CARTER:

20 Throughout the hearings we've heard a lot of views expressed by members of the public of the state of awareness that they had for many things. You know, what could liquefaction mean and what is it and matters like the code standards, after assessments, after earthquake et cetera so I am just commenting that although you might set a whole lot of stuff down in policy that people can go and read not many members of the public will go and read the
25 Building Act. So there seems to us to be a really great need for communication, lots of communication with the public. Do you – are you setting up to provide that – be one of the elements that provides that knowledge, I know there are others that have got to be part of this but where is the Ministry on this matter of communicating to the public on the really
30 simple things that are implied in the way that policy is described?

MR KELLY:

I think there is two answers to that. Several times throughout the presentation I refer to information education and advice and there is very much a strong emphasis on that. Now, the first part of that is to the professions in terms of them undertaking their work but there is also information to home owners in particular about protecting their assets and the questions they should ask, there is also some work around mandatory contracts so that people undertaking work are aware of their rights and obligations and the questions they should be asking. We haven't done a lot of thinking to be fair about general education of the public around engineering issues. That hasn't been one of priorities to date but that is something happy to take away and have a think about.

COMMISSIONER CARTER:

Yes I would like you to be doing that particularly you know we heard from people like land – real estate agents and insurance organisations et cetera which could be very much part of the communication process to the public and I think we need to energise all of those elements to be doing that job.

MR KELLY:

It's certainly been a significant issue in supporting the Canterbury Earthquake Recovery Agency in terms of their direct communication with members and we've provided quite a lot of technical support to try and help them, I think you are raising a broader issue again that we probably need to think about.

COMMISSIONER CARTER:

Right, thank you.

JUSTICE COOPER:

Thank you. So that brings this session to an end does it Mr Allan, Mr Mills?

MR ALLAN:

Yes it does, Sir yes.

JUSTICE COOPER:

We look forward to hearing the Standards Council at 2.15. Thank you.

HEARING ADJOURNS: 12.57 PM

HEARING RESUMES: 2.18 PM

5

MR BUCHANAN CALLS:

JOHN LUMSDEN (AFFIRMED)

DEBBIE CHIN (AFFIRMED)

10 **MR BUCHANAN:**

May it please the Commissioners the two witnesses for the Standards Council are the Chairperson Mr John Lumsden and the Chief Executive Mrs Debbie Chin. I'll just introduce them in turn.

EXAMINATION: MR BUCHANAN

15 Q. Mr Lumsden you're the Chair of the Standards Council under the Standards Act 1988?

A. I am.

Q. And you were appointed in November 2010 to that role?

A. Correct.

20 Q. And your background is that you are a Director and co-owner of a communications company and sit on the Board of Kia, the global network?

A. Yes.

25 Q. And you've been the President of the Wellington Regional Chamber of Commerce as well as a Director of Grow, Wellington, the Economic Development Agency in Wellington?

A. Yes.

30 Q. And prior to that you were the first Chief Executive of MetService when it was established as an SOE in 1992, and how long did you hold that position?

A. For 15 years.

Q. And in terms of your qualifications you have got a Mechanical Engineering Degree from St Andrew's University in the United Kingdom?

5 A. I do.

Q. And Mrs Chin, you've been the Chief Executive of Standards New Zealand, the operating arm of the Standards Council since 2007?

A. Yes.

Q. And you're a Chartered Accountant by profession?

10 A. Yes.

Q. And you've held a number of public sector roles, including as a Prime Ministerial Advisor in the 1990s?

A. Yes.

Q. And you worked at the Department of Health from 1999 to 2007?

15 A. Yes.

Q. What roles did you have there?

A. Deputy Director-General, Corporate Information and as Acting Director-General of Health.

Q. And would you describe yourself as having experience in public policy and regulatory design?

20 A. Yes.

MR BUCHANAN:

Just a point to add, Commissioners, that neither Mr Lumsden nor Mrs Chin are technical experts on the content of the Building Standards. They are here to give evidence in relation to the functions of the Standards Council and the manner in which the Council operates in the general sense, although they'll do their best to answer any questions relating to particular standards as they arise. Now can we have our presentation for the Council if that could be brought up.

Mr Lumsden I'll leave you to lead off into the presentation with your first slide please.

MR LUMSDEN:

First of all before I start the description about the Standards Council, I'd like to state that Standards New Zealand and the Standards Council are very
5 heartened by what we heard from the Ministry this morning. We believe that that is a very positive basis for moving forward.

The Standards Council was established after the Napier earthquake to improve the quality of buildings. It's New Zealand's National Standards Body.
10 It has its operating arm, Standards New Zealand, of which Debbie is the Chief Executive. We are an autonomous Crown entity so we're owned by the Ministry although we have our separate council members, a number of whom are nominated by nominating organisations and our councils comprise of nine people, four of whom are appointed by the Minister and the others are
15 representative of nominating organisations. We act under the 1988 Standards Act with an obligation to develop, publish and promote standards. We're self-funded and not for profit. We're able to survive economically by being commissioned to develop standards for regulators and by the sale of publications.

20

JUSTICE COOPER:

Q. Can I Mr Lumsden ask you a couple of questions. You say you were
25 established in 1932 to improve the quality of buildings. Were standards in the building area the first work of the Standards Council?

A. I believe so.

Q. I see and that was before the earthquake?

A. That was after the earthquake. It was a result of the earthquake.

30

MRS CHIN:

Standards New Zealand or our predecessor was established as a result of, as a consequence of the Napier earthquake in 1931 to improve building standards across New Zealand.

5 **MR LUMSDEN:**

And I think it's fair to say that of the range of standards that we handle which is everything from social responsibility to the flammability or otherwise of children's nightwear, a very large percentage of the work involves the building and construction sector. It was the starting point and it is maintained, as I say,
10 as a significant core part of the work that we do.

JUSTICE COOPER:

Q. And have you always been self-funded?

A. No. The self-funding Debbie you can probably let me know but that
15 started in the 1980s.

MRS CHIN:

Late 80s.

20 **JUSTICE COOPER:**

Was that part of the Standards Act 1988 perhaps was it?

MRS CHIN:

I'm not sure.

25

JUSTICE COOPER:

Well contemporaneous anyway.

MRS CHIN:

30 I'm not sure about the, um, what led first but certainly part of the changes, the standards organisation became a self-funded organisation with no Government funding. Public good funding was withdrawn.

JUSTICE COOPER:

And have either of you looked into the rationale behind that?

MRS CHIN:

- 5 Another person here might be better to answer that as they were around at the time. Neither John nor I...

MR LUMSDEN:

- 10 I think it's fair to say that there is this Standards and Compliance Review underway and I have seen some documents which refer to the various changes that were made to the funding arrangements at that time as part of the background that the Ministry is working on. The specific rationale for what came to those conclusions I'm not privy to.

15 MR BUCHANAN ADDRESSES THE COMMISSION:

- Your Honour if I can be of assistance. Later in the presentation there will be some slides in relation to the funding model and the funding question that's been raised in the discussion paper and there will be some further points which we can emphasise at that time. Are you comfortable with dealing with that at that time or would you like to explore the –
- 20

25 JUSTICE COOPER:

Well do they cover the history of that change or not? Do they cover the history of the rationale for the change from being funded by the Government to being on their own.

30 MR BUCHANAN:

The slides don't cover that so I'm happy for us to explore that a little bit further now at this point if you would prefer.

MRS CHIN:

I wonder whether that might be able to be explored as part of the panel discussion when Dr Peter Mumford is on the panel.

5 JUSTICE COOPER:

Yes all right.

1428

MR BUCHANAN:

10 I did want to ask Mr Lumsden at this point just to comment on what Dr Mumford had said this morning about the hierarchy of documents within the building code and the code which he said was free, the compliance documents which he said is free and the standards which he said are not free and need to be paid for. Do you have any comment in relation to that from the
15 perspective of the Standards Council?

MR LUMSDEN:

Thank you, I think the matter of freedom, it would not be Standards Council's preference to have anything other than open access if it was possible, but we
20 don't get access to the building levy which is funded by the Ministry for providing the access which is notionally free to the users at that point. We would certainly support open access and the issues of how the money goes round is one of the things that we will attempt to make comment on as we talk.

25 MR BUCHANAN:

Can we move to the next slide?

MR LUMSDEN:

The next one up should talk about key points. We've got six key points that
30 we'd like to bring to the Commissioners' attention. The first one is the role of the Council in the building regulatory framework which we see as being in autonomous expert body which can develop or adopt standards that can be used as a means of compliance of the building code, and you'll note that we're

not saying “must” or I think with clarifications that were provided this morning are basically supported by this comment here, “An autonomous expert body which can develop and can be used.” We are the gateway to international standards, as the, I think we’re called the peak standards body in the country,
 5 so we represent the country at National Standards Organisation for example.

JUSTICE COOPER:

Was the expression you used “peak standards”?

10 **MR LUMSDEN:**

Yes, yeah, now that’s something that’s basically in the way we describe ourselves because just because of the fact that we’ve got the imprimatur of the Government as the people who are the representatives at ISO. And we have the ownership and the stewardship of the National Standards catalogue
 15 and there’s some concerns about that which will come in and probably have come in at other bodies’ submissions in terms of the catalogue is worth a great deal if it’s kept up to date. And our ability to keep that up to date is under challenge.

The second point is the role of the Ministry and we believe, or we know that
 20 the Ministry has a role as both the regulator and the lead Ministry for the building sector and that is as a result of the combination of departments or Ministries that took place on the 1st of July. And the Ministry as a building regulator can choose how to set the requirements, either directly into regulation or by reference to another document such as a standard, and
 25 evidently the Ministry has other roles including being a catalyst for a high performing economy, being the lead Ministry for the standards conformance sector and I’ve got a slide later on that shows the five bodies that are part of that. Clearly it’s the lead Ministry for science and innovation and responsibility for occupational regulations. So it’s got many hats as far as we’re concerned,
 30 in addition to that of the building and construction regulator. And clearly it’s the Ministry’s prerogative as to how it regulates under the Building Act 2004. We do believe it has a leadership role in the building sector including the promotion of innovation, productivity and straightforward engagement.

The third key point would be concerning the building standards development. Standards can be and have been developed for regulatory purposes, and I think the point here is that if one knows a standard's going to be developed for a regulatory purpose, the way you set up and scope the activity is of crucial importance. The standards setter needs clear direction from the regulator on the intended role of the standard and as the regulator we believe the Ministry can provide this direction through a range of mechanisms, including work programmes. Now I clarify here that from a Standards Council perspective a national policy statement or a work programme, what it really means to us is knowing what the plan is for what's coming off and what the title of it is, is less important to us than the fact that it exists. And also the Ministry would have direct engagement in the standard setting process and we'll talk a bit more about how we think that could be in more detail later on. Basically we require clarity from the Ministry about how a standard will be used. The overarching policy context all to ensure that the technical content of that standard is fit for the purpose, and that I think is something that we really want to emphasise and if recommendations from the Commission support that, that would be extremely helpful.

The next point to touch on would be the strength of the standards process. There's an internationally recognised methodology and body of knowledge and pool of expertise which comes from the rest of the world, which we use. Consensus-based approach can produce standards that are the best solution for regulatory purpose. Now there's discussion about the consensus-based approach limitations and strengths and we'll look into that in more detail later on. Used properly, we believe it does produce a very good solution. It does need clear statements from the regulator about the function a standard is to serve, what the performance requirements are, why the intervention is needed and what goal is looking to achieve and without that it's not going to do the job for us. I'd like to emphasise that there are over 1200 standards that are incorporated by references in the New Zealand Law books that numerous examples of standards developed for regulatory purposes by (inaudible 14:34:58) regulators so it does work and can work for the building and construction sector.

1435

The next key point would be on innovation and technologies and it is well accepted internationally that standards have expected performance requirements for new technologies and are a way for diffusing knowledge and again this is a topic that we will elaborate on a little bit later. There is clear link between standards and innovations. It is the international literature and it has already been highlighted by previous work completed by the Ministry in 2005, 2006. That would be the Ministry of Economic Development at the time.

The sixth key point is on funding and we do agree with the submissions that have been made prior to this, that the current building standards funding model is not sustainable. The Council does support an industry option which has been submitted of a dollar matching of the building levy with practitioner fees. We are agnostic as to how that would work in detail but in principle that would be our suggestion as to the submission to the funding issues. We are conscious that there is this standards and compliance review under way. We would not want to make strong suggestions as to what the outcome of that might be because that is for the standards and compliance review to determine in their recommendations.

20 **JUSTICE COOPER:**

Mr Lumsden, I don't really understand what you mean by dollar matching of the building levy with practitioner fees. Is that describing, well, I don't really understand what that means?

25

MR LUMSDEN:

Well there are practitioners such as you know, architects and builders and so on pay fees from time to time and I understand from the likes of the construction industry council that that would be an acceptable solution for their members to provide some funding that would match what was being funded from the building levy.

JUSTICE COOPER:

But is your funding source from the building levy?

MR LUMSDEN:

- 5 No we don't – the work that is done to develop certain standards comes from the building levy. I think Debbie you are better to qualify that?

MS CHIN:

- 10 The funding of standards for the building and construction standards, some of that is developed by Standards Australia and they fund some of the cost of that development. Some of that, there, in the past there's been a greater contribution by the regulator, the building and construction regulator over the last two years that has been significantly reduced over the last two or three years. Some of the activities are funded and sometimes industry contribute to
- 15 the funding of standards for example the concrete industry have contributed to the development of concrete standards from time to time.

JUSTICE COOPER:

How is Standards Australia funded?

20

MS CHIN:

- Standards Australia have a corpus of over, about \$180 million dollars and they use the income return on investment of that to fund their activity to develop standards. In addition they get funding from the government, the Australian
- 25 government.

JUSTICE COOPER:

So where did the \$180 million come from?

MS CHIN:

30 They sold off parts of their business which was floated on the Australian stock exchange. They had a – a significant of that was trading and development

certification business so they have built a big pool of money that they are able to use to develop standards in Australia.

JUSTICE COOPER:

5 When were they floated?

MS CHIN:

2004.

10 **JUSTICE COOPER:**

Thank you.

MS CHIN:

As I recall, 2004.

15

MR LUMSDEN:

Yes we would wish we are in a similar situation.

MS CHIN:

20 By comparison our, their equity is about \$3 million dollars.

MR LUMSDEN:

I could say that at this point New Zealand benefits greatly from our relationship with Standards Australia. There are a large number of standards
25 which are joint Australia New Zealand standards. Obviously we participate in the work with them but they do the lion's share of the heavy hauling.

We've got some areas of agreement with the Ministry. We do agree that there is confusion in the sector in roles and responsibilities and we believe that the work that is being done here and with the standards and their conformance
30 review should clarify that. That there is under resourcing in the sector and we've got this worrying backlog of aging standards. We do need accessible and searchable information, modern technology allows for that, we are not there. A great need to clarify the interface between the building regulatory

instruments and standards, this was touched on this morning. The manner in which views were described looks positive to us and I think with that clarity of the interface we'd be able to move forward. There has been (inaudible 14:41:08) in the general economic sense of information asymmetry about compliance requirements rules and responsibilities a market failure in the building sector and it does need the Ministry's intervention and leadership.

MR BUCHANAN:

Can I just ask you a question Mr Lumsden in relation to the interface which Dr Mumford mentioned this morning in his evidence as the crucial aspect of the split between policy and technical development. You'd agree with that statement about the critical nature of that interface?

MR LUMSDEN:

Very certainly, yes.

MR BUCHANAN:

Have you got any examples that you can give to the Royal Commission about the way in which that split could be manifested in relation to particular areas?

20

MR LUMSDEN:

Yeah, I think there was a number of them. I think Mrs Chin you could probably speak to that one?

25

MS CHIN:

Certainly. As an example, clarity on whether there should be a focus on life safety and/or building resilience. Do we want buildings that we can re-enter after a natural disaster like an earthquake. Now those are clear policy decisions for the regulator to make.

30

MR BUCHANAN:

Mr Lumsden, you have got a number of slides now which you'd like to describe in a little bit more detail the nature of the standard system. Can we move on to those?

5 **MR LUMSDEN:**

Thank you. Well we've got a standards and conformance system and there's five Crown entities that are involved with that and I think their Titles are on the slide. We are part of this wider standards and conformance infrastructure that supports the building sector and other parts of the economy. It is a value chain, all parts must operate effectively for the value to be generated and passed through to the economy. and it's b a truism, older out of date standards that may no longer be fit for purpose do crate a barrier to this economy.

10 The next graphic is, shows that we are little organisation but has an impact on the whole country. There is less of us as full time equivalents, less than 50 of us but we do have the support of over 400 nominating organisations that provide expertise through the expert volunteers of whom there is greater than 2500. We have over 3100 national standards as part of the standards and conformance infrastructure and we've access to over 25,000 international standards and these serve to the benefit of 4.4 million of us. We see ourselves as standing on the shoulders of giants. It is a relatively small organisation drawing on a vast network of experts, intellectual property and international better practice.

25 **JUSTICE COOPER:**

Just tell me what FTES means?

MR LUMSDEN:

30 That is full time equivalent – 'cos we do have part timers and quarter timers and yeah.

JUSTICE COOPER:

I understand, yes. I am only a judge -

MR LUMSDEN:

I am not too good at the bureaucratic speech myself actually.

5 JUSTICE COOPER:

Right.

MR LUMSDEN:

Now we have got another diagram about how standards could be used and
10 this shows a continuum from low to high risk assessment from doing nothing
to having direct regulation and the standards input comes after you have
decided to do something but before the iron fist of the law impacts on what
you are doing, and so in the diagram you'll see various types of solutions, self-
regulation, quasi-regulation and co-regulation, and where we're talking about
15 in terms of the building and standards it is in the co-regulation where there is
mandatory standards I've referred to in regulations. And so standards work
outside of Government but also within Government depending on how far to
the right you go on this. The standards are part of the fabric of the building
regulatory system and the decision about how the system is adjusted and
20 when and by whom is what the Council has described as an intervention logic,
an important step in understanding the outcomes being sought and that's why
having a work programme or a national policy statement is going to be so
helpful to get to that. And at this point the next graphic is one that Mrs Chin is
going to talk to about the specifics of the standards process.

25

MRS CHIN:

So just briefly in terms of the standards development process that we adopt at
30 Standards New Zealand. It is part of an internationally accepted process with
– and it's really important from the outset that we have clear scope and part of
that means clear regulator requirements with clear intervention logic would be
best practice, to be able to streamline the interface between building

standards and the building regulator. Tools that could be used are talked about and mentioned in our submissions including preliminary impact assessments, national policy statements that help provide clarity for both the standards, national standards body and the regulator. As part of the process we invite public comment and it is what's generally called a consensus process and I'll elaborate later on in the presentation on what we mean by consensus.

MR BUCHANAN:

10 Q. Can I just take you to the top two boxes in that diagram where you just mentioned about the scope. Sitting underneath that is the formation of the balanced committee. I know you heard, might have heard some questions from His Honour this morning to the MBIE witnesses in respect of what the roles are in terms of the scope and also the formation of the committee. Do you have any comment on that?

15 A. In terms of the committee?

Q. In terms of the Ministry's role in the formation of the committee, I think was His Honour's question.

20 A. I think that in terms of the interface with the Ministry, it's important to have – to understand what it is that the Ministry would like to do and just make sure that it's incorporated into the terms of reference. We are always also very careful and work to ensure careful selection of the chair.

25 Q. Can I ask you at this point some questions about, again some of the points, questions which were raised by the Commissioners this morning in terms of the nature of the committee, the manner in which it's formed. There's been some suggestions that the – a committee that is formed for regulatory purposes for producing a standard for regulatory purposes perhaps needs to have a different constitution from one which is formed to develop a standard that's going to be for voluntary use. Can you comment on that point?

30 A. Well generally we, both the Ministry and Standards New Zealand would call on the same group of experts to participate on a standard. We

would ensure from our point of view ensure a balanced committee of experts so that it is representative of the interested – of parties who are interested in that, and there would always, it's important there that we have careful selection of the chair.

5 Q. Can I also ask you a point about another question which was raised this morning in relation to the time that it takes to develop a standard?

A. Certainly, in terms of the time that it takes to develop a standard, our track record of more recent times shows that we can do up a standard, you know, in three months and in our submission there's a case study in
10 the electrical sector where we were able to turn something around in three months. Standards Australia has also streamlined their processes and they've updated their 1170 structural standard as a result of the Cyclone Yasi in February 2000 and I think is it 11, so they've updated that standard already. So I think we're all working to continue to improve
15 our processes. Certainly they're much faster and more streamlined than they might have been 10, 15, 20 years ago and generally speaking our standards are completed in an average of 12 months which is ahead of other National Standard bodies around the world and that includes in that period a two month public comment period in that 12 month period.

20 Q. And in relation to the recommendations that this Royal Commission has already made, was mentioned this morning by the Ministry, witnesses that they are talking to, Standards New Zealand in relation to that, do you have confidence in the ability of Standards New Zealand to act within those timeframes that you've just mentioned?

25 A. Absolutely. We've got a track record of being able to do that. I think the important thing is to have clarity from the regulator on what they are seeking, and clarity about scope.

COMMISSIONER FENWICK:

30 Q. Are those timeframes you comment – don't seem to relate to my knowledge of the structural standards which have been produced so I mean it's the structural standards which I guess would be our main interest.

A. There hasn't been a review of the – so to the best of my knowledge the most recent review of a structural standard is probably the timber frame, residential building standard, and yes that would take – took longer than 12 months.

5 Q. I'm thinking perhaps of earthquake action standard, depending on when you thought it started but either it was about 14 years or about four years when it came to New Zealand to produce. I don't think those times are too far out. The structural concrete standard started in I think 2003 and was finalised 2006 with major amendment in 2008. It doesn't seem
10 to be quite as quick as a year as you're suggesting unless there's been a very remarkable change. I think the last revision of the structural steel I think went on for well over year?

A. Yes and that's still, I think that the structural steel one is still not complete, well the aspect of the work that was scoped –

15 Q. Sorry, I was referring to the amendments, there's a new one coming out, yes.

A. So the 12 months is an average and certainly the structural standards that you were talking about we haven't reviewed more recently in the recent period.

20

JUSTICE COOPER:

Q. What's happening to ASNZS 1170.0, which you say the Australians have recently changed?

A. Yes, they've reviewed that, they made an amendment for Cyclone Yasi.

25 Q. So how – what happens now because I thought it was a joint standard, can they – to have a joint standard can the Australians change it?

A. So they've made an Australian only amendment and that's available for us to adopt in New Zealand if the regulator chooses to adopt the standard, that amendment, so that's a flexibility in the model that we
30 have commonality of a standard, and each country is able to make country only amendments, desirable in terms of best practice that we both align those at the same time but sometimes, from time to time it will vary.

Q. If they made a whole lot of Australian amendments to that document at some point it would cease to be – it would be misleading to call it a joint standard wouldn't it, I suppose, theoretically?

5 A. When the Australian standard – Standards Australia after the February, you know the day after the February 22 earthquake offered to review 1170 so that we can take the learnings from the earthquake and incorporate into that standard so they have kindly offered to commence a review of that standard should it be needed.

1455

10 Q. Who did they make that offer to?

A. Standards New Zealand.

Q. And what happened to it?

A. We're talking to the building regulator about what we should look at there and what we can amend.

15

COMMISSIONER FENWICK:

Q. Do I understand they changed 1170.0 or .1, .2 and .3 and .4?

A. I think it was only for the wood [*sic*] loadings.

Q. Wind loadings, so that would be point 4 I think or is it point 3?

20 A. I think point 4 was the Australian earthquake, might be point 3.

Q. Yes point 3, yes.

JUSTICE COOPER:

We'll get on to the specific clauses in the document shortly.

25

MR BUCHANAN ADDRESSES THE COMMISSION:

I wonder if I can just interpolate to the Commissioners in relation to the legal position under the Standards Act which is that the Standards Council has a number of functions under the Act in relation to the development of standards. First of all it can prepare and adopt its own standards. It can then examine an international standard and adopt that for use in New Zealand and it can examine an existing standard and revise or amend that standard and the way

30

in which the Council exercises that function in respect of the Australian standards and the joint Australian/New Zealand standards is through the second of those routes which is through the examination of an international standard and the adoption and promulgation of it in New Zealand and as
5 Mrs Chin has said, the Australians are free to adopt their own amendment, Australian specific amendment to a standard that's been a joint Australian and New Zealand standard and it's then for the Standards Council to make its own decision as to whether it adopts it. So the Act is quite clear in terms of that hierarchy of functions.

10

JUSTICE COOPER:

So what starts out as the joint Australian and New Zealand standard may end up, could become quite –

15 **MR BUCHANAN:**

potentially end up –

JUSTICE COOPER:

It could become quite bifurcated.

20

MR BUCHANAN:

It could end up becoming bifurcated. Without wishing to take over the role of the witnesses, the Standards Council I think has made it clear that it would wish to work with a regulator and rely on direction from the regulator and the
25 need for funding in order to be able to address that change as it arose.

MRS CHIN:

Can I just comment in terms of 1170. There is a specific chapter in that document for New Zealand which is chapter 5 in that document, for seismicity
30 in New Zealand.

JUSTICE COOPER:

I'm well aware of that.

EXAMINATION CONTINUES: MR BUCHANAN

Q. We will move to the next slide.

5 MRS CHIN:

A. So the standards process, next slide.

We would strongly argue that the standards process has been proven over the last 80 years in terms of the history of Standards New Zealand and the international standards community. We ensure that there is a
 10 balanced committee so all concerned interests can be heard. I emphasise here that our committees are comprised of experts who act as volunteers, gifting their knowledge and expertise and their knowledge and skills to the standards development process. The process enable experts to challenge, to test and moderate to achieve the best outcome.
 15 As I mentioned before there is a public comment process which is international best practice. All our processes that I've talked about meet New Zealand's international obligations because they are international agreements that New Zealand holds while addressing the national public interest.

20 Q. Can I just ask you some questions about the second of those bullet points which is the experts acting as volunteers. Are you able to clarify the nature of the meaning of the word "volunteers" in that context in relation to the expertise that is provided.

A. There was a bit of discussion earlier about suggestions of industry
 25 capture. Industry are but one party round a standards body and I've got 1170 here but if you look at the main parties to that standard there are a lot of people from research houses, from universities and one or two industry but the majority are learned experts who have participated on that standard. There is also argument, there has been some discussion
 30 about should we pay and fund experts to develop standards. The standards model was flexible and can accommodate that and certainly from time to time it's not unusual to have, if we can find a funder to fund

an expert to be a writer on the standard which would expedite the standards development process.

5 Q. Are you aware of any instances where, in your observation, the standards process for a particular standard has been captured by a particular group or representative on a Standards Committee?

A. No.

Q. Would you agree with Dr Mumford's observation this morning that while there may be a perception of the potential for capture that it is a risk and needs to be managed?

10 A. Certainly there is a risk and it is an important part of the standards process where as Chief Executive I need to be particularly diligent to ensure that there is a balanced committee.

15 Q. Are you able to tell the Royal Commission of any steps that you have taken recently to actively manage that risk, either generally or specifically?

20 A. Just to re-emphasise the point, recently we up-dated the terms of reference for our committees to emphasise the importance of impartiality when they participate as part of that committee. Just as we also ensure that we receive feedback at the end of any work we complete so at the end of a standards fund. When we have completed a standard we ensure we get feedback and that's undertaken by an independent research firm and each year we also have an independent research firm that does an annual survey to ensure we get feedback from both committee members and people who participate in the standards process through public comment as well as our customers.

25 Q. And we move to the next slide. Now this slide is an important one because there's been a lot heard about the term "consensus". This definition that's been put up on the screen here, what's the origin of that?

30 A. This comes from the International Standards Organisation, International Electro-technical Committee and this is the one that is accepted internationally is the definition of "consensus". It's not the general dictionary definition of consensus.

JUSTICE COOPER:

Q. What Committee was it – the International?

A. Standards Organisation.

5 Q. Yes I got that then you said some committee?

A. IEC, that's a footnote there, International Electro-technical Committee.

Q. Electro-technical.

A. So all the electrical standards for electrical –

Q. Yes I understand what it means once I've heard the word.

10 A. Sorry, apologies.

EXAMINATION CONTINUES: MR BUCHANAN

Q. It's important to take the Royal Commission through that definition. It's in a number of parts and perhaps we can just break it up. The first part there is just the first two words – “general agreement”. It then goes on to talk about the absence of sustained opposition. Can you comment on the way in which that is understood in your process?

15

A. So in terms of that it does not imply unanimity amongst the committee and generally speaking in terms of the level of consensus if there's such a technically, I don't know that we can say that, our Standards New Zealand is able generally to achieve an 80 percent consensus model in terms of 80 percent of people voting for a standard. Internationally the minimum threshold is 67 percent, is the general model around the world and in ISO ISE that is the general consensus and also in Australia they use the 67 percent threshold of agreement amongst the committee.

20

25

Q. That middle part of the definition uses the words absence of sustained opposition to substantial issues by an important part of the concerned interest. Can you explain the meaning of those words concerned interest?

30 A. So that as part of the standards process we ensure that people, that affected parties can participate in the standards process. That's diverse interests, can have a view that we – the committee considers those

diverse views as part of its process and ensure that they are addressed through the committee process.

Q. And the definition then goes on in the third part from the middle of the third line by a process seeking to take into account views of all parties concerned and to reconcile any conflicting arguments. How do you apply that part of the definition in the process of settling the content of the standard?

A. Well the committee receives feedback from public comment and from within the committee, all those comments are considered and deliberated by the full committee and there we have documented responses to each of the public comments that are made, there is a clear record of committee considering all the matters that are raised by interested parties. We, you know, we take seriously our responsibility to consider those comments, and for the committee ensure that they do process them in an appropriate way and use their judgement, their expert judgement of the committee to draw conclusions.

JUSTICE COOPER:

Q. Do you say you consulted the public?

A. A public – we don't use the word consultation, we use – we provide the standard for public comment.

MR BUCHANAN:

Your Honour, there's a statutory obligation to do that in the Standards Act as part of the process there's a duty to seek the views of interested groups and the council uses that and interfaces that with the consensus process.

JUSTICE COOPER:

Q. But does that end up at some stage where the public generally are approached or just interested, you identify who might be interested.

A. Yes we identify who may be interested and we send and ensure that the standard goes out to interested groups and parties who may wish to comment.

MR BUCHANAN:

Q. So that's the concerned interest that's referred to?

A. Yeah, we draw on our database to ensure that.

5 Q. Conscious of the time so if you want to move onto the next slide.

A. So in terms of the standards and the building and system this is just a summary of the documents that are cited or referenced in the Building Act. There is one cited in the Building Act.

Q. Building code?

10 A. In the Building Act.

Q. Sorry, I beg your pardon.

A. In the Building Act and then there are a number of standards which are incorporated by reference in compliance documents, 271 standards of which 114 are developed by, jointly with Standards Australia and the majority of those, the cost of developing those are funded by Standards Australia. There are also a number of secondary references in the compliance document standards, and there are a number of handbooks as well so they're used quite extensively in the Building Act. Some of those are aging as we – Mr Lumsden mentioned earlier and there are some inconsistencies between some of those documents and also with the inconsistencies with the compliance documents issued by the Ministry.

15

20

Q. Next slide thank you.

25

MR LUMSDEN:

One of the questions that you asked us was what could a national policy statement achieve and as I mentioned earlier, call it a work programme, a national policy statement, what's such a – such a statement would achieve for us would be clarity of the Ministry's expectations as the regulator for building and construction. As a leader for building and construction and a leader for the New Zealand economy it would articulate the intervention logic for

30

developing standards in given situations and this would become really clear in the scoping of the specific work and it would enable the full deployment of the thing called the IRCC model, I don't know whether we have a diagram of that around, but it is the internationally accepted way of developing standards, and in that regard IPENZ and the New Zealand construction industry Council have made submissions or we'll be talking about their submissions in terms of the utility of a national policy statement. Again we would interpret that as well if it's a work programme, that's fine too and we're in support of the gist of what they are saying there.

10

JUSTICE COOPER:

What does IRCC stand for?

MRS CHIN:

15 The International, this is the body that the Ministry are part of which is the panel of international building regulators.

MR BUCHANAN:

I believe it's the International Regulatory Cooperation Committee.

20

MRS CHIN:

It's referenced on – in our submission, the model –

MR LUMSDEN:

25 It's one of these triangular ones again, there it is.

MRS CHIN:

On page 26 and 27 of our submission.

JUSTICE COOPER:

30 Do you know what countries participate in that committee? Is it a truly international body, is it Commonwealth thing, is it – are the Americans in it?

MRS CHIN:

I think – I can provide that information later on in the day but just off the top of my head I understand Canada, is it Japan, Australia, there are a range of countries, maybe Norway, there's also –

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JUSTICE COOPER:

I'd be interested in due course in just knowing who the members participating on that committee were.

10 **MR BUCHANAN:**

Maybe that the departmental representative, John would be able to provide that information because I think it is a Government membership rather than a – it's not a Standards Council membership but we'll obtain that information.

15 **JUSTICE COOPER:**

One way or the other, thank you.

MR LUMSDEN:

Okay the next question that you asked us was about standards innovation, so if we could have the next slide. This is, very generally this is a graph that shows that in terms of the effects of innovation, if you develop a standard too early you've basically brought in a technology before it's been more properly developed and if you do it too late you condemn everybody to it being obsolete and there's a sweet spot in the middle, and Debbie you've got some examples I believe of how in practice the timing of this thing works.

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MRS CHIN:

So in terms of a new technology, it's important not to lock it in too early, and so – but also not too late. As an example in the UK there's been a huge investment by the Government into nanotechnology. What they've endeavoured to do is to ensure diffusion of knowledge through the research and innovation that's coming through in the UK. They've ensured that there's a standards development process in parallel so that we can capture at the

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right time new technology relating to nanotechnology within the UK model and certainly another country assessing a close link between ensuring that the research is, are done. As soon as the research is completed and there's adequate information, that that gets captured into standards as a tool for diffusion of knowledge. It's also important in the discussion MBIE as the Ministry has a role around also innovation and new technologies and certainly under the Building Act the chief executive has the role to monitor current and emerging trends in building design under the Act and take advice on that under the Act, under the Building Act. So we would look, it's important that there is close interface between those emerging technologies that are monitored by the Department under the Act and the timing of those being factored into standards as accepted good practice.

MR LUMSDEN:

And we're just coming to the end now councillors, but back to the sustainable funding model and reiterating some of the things that have been said before, that we do agree that the current business model for New Zealand, for building standards is not sustainable. The Council has a dilemma in that we've got an Act which sets out requirements that we're supposed to undertake. At the same time as being responsible directors of the entity we need to stay solvent and the way we're running right now we're not going to be able to stay solvent for too much longer. We've got several million dollars of reserves which are being used up quite rapidly the way we're going right now. It's evident in my annual report and the statement of intent we've just put out, so we're certainly in a parlous state. So funding is a critical factor in the Council's ability to update the building standards referred to in the Royal Commission's recommendations to date. And we've heard some encouraging statements from the Ministry this morning. And as we clarified earlier, we do support in general an industry supported option, or industry suggested option of the dollar matching of the building levy and again we'd reiterate that, you know, we are really conscious of the standards and conformance infrastructure review and the recommendations that come out of that regarding the funding. But with a sustainable funding model we would

improve the accessibility of standards. We'd enable the building standards catalogue to be kept up to date, enable more research and education on standards, and ensure that innovation in technological advances are addressed.

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COMMISSIONER FENWICK:

Just one point. The standards used to employ engineers to help with the, you know, directly employ them. I think that that ceased about 2007. Has that been started again? Do you employ engineers now to assist with the construction, with the writing of standards?

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MS CHIN:

The answer to that is no, that's not the current practice, but certainly as I mentioned we would, we're not averse to being able to employ technical experts to assist with the writing and development of standards. And certainly in other fields the Standards New Zealand has employed technical experts to assist particular industry sectors to support the development of standards because they haven't certain industry knowledge. Either industry knowledge or technical knowledge that would facilitate the process for the development of standards and quicken that process.

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COMMISSIONER FENWICK:

My own observation is that when you did have engineers employed and you had several one after the other employed, it made a very much easier and faster process in terms of writing the standard.

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MS CHIN:

Yes.

COMMISSIONER FENWICK:

To the extent I really wondered with the last one I was involved with whether it was right for the standards to be developed by Standards because it got so delayed and complicated because there wasn't that technical backup.

30

MS CHIN:

Yes, I mean I'd certainly, we would welcome the opportunity to have technical experts on the staff of Standards New Zealand. If we had a programme of work that we knew that could support those technical experts then we'd use those technical experts. Certainly that would not, yeah we could do that and that would be certainty about a programme of work over several years. At the moment the way that we develop standards in the building construction sector is based on an ad hoc basis and we have no certainty of work programme, of the work programme.

COMMISSIONER CARTER:

I'm just perhaps a little unclear about the third of your funding options. Industry option of dollar matching. Two questions there. Is that being consulted with industry and so they've got an agreement to this, and second question, is the industry the same group that's paying the building levy anyway?

MR LUMSDEN:

Yes, yes. We are reflecting what we've read in other submissions, rather than coming forward with our own preferred solution. We had been, and I can state now the reasons for it. We had been in a situation where we wanted to present to Commissioners the possible options for funding, because we'd asked the question how should it be funded and the Council members in particular wanted to be sure that we had a range of options that we could constructively propose. We decided that given the standards and conformance review, given that some of the sensitivities of the timing of the Commission's recommendations and the review that it would probably be unhelpful to table that set of thoughts about funding. So what we have done is looked at the various submissions that have been made and say, "Well what the CIC and what IPENZ are saying seems to make general sense to us as the way you would move forward. We are agnostic as to the specifics about how that will be done. We might have our own internal thoughts about

it but we wouldn't want to pre-empt the wisdom of the review and of you Commissioners on that.

COMMISSIONER CARTER:

5 We'll be hearing from those bodies shortly anyway. Thank you for that, that will help me think about that.

JUSTICE COOPER:

10 When you talk about the review Mr Lumsden, what review are you talking about?

MR LUMSDEN:

The standards and conformance review that's being conducted by the Ministry right now. This was something that I would state that Council itself initiated with Minister Banks when we were briefing him. We were saying, "Listen we've got some serious issues in terms of the sustainability of our standard system in New Zealand, given some of the difficulties we've got." We had some thoughts about the infrastructure, the various five bodies and were there ways that they could be made to work more productively. We had some other thoughts about how we would manage to raise funds to keep on going and so we were very happy when MED officials in the day were asked to conduct a review about the standards and conformance system. That's what's ongoing right now with a report with recommendations due to go to the Minister late October I believe.

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JUSTICE COOPER:

Late October?

30 **MR LUMSDEN:**

Yes.

MR BUCHANAN:

I believe Your Honour that Dr Mumford mentioned this morning that the review would be completed I think in October he said, and that the, but that the publication of the results of the review would be held over until after the Royal Commission had reported, I believe that was what he said this morning.

5

MS CHIN:

I think the terms of reference for the review are attached as an annex to the Ministry's submission. It was part for your consideration.

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JUSTICE COOPER:

Now just tell me, what's your budget or is that not something you'd like to disclose?

MS CHIN:

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Oh no, it's public, yes, public document so our revenue is about \$7.5 million.

JUSTICE COOPER:

That's your revenue?

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MS CHIN:

Yes.

JUSTICE COOPER:

And that is roughly in line with your expenditure once you –

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MR LUMSDEN:

Just slightly less than, yes.

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JUSTICE COOPER:

So you are spending slightly more than that?

MS CHIN:

Yes.

5 **MR LUMSDEN:**

Last year's results showed a deficit of around about a quarter of a million dollars. The previous year was the other way around, we made about \$500,000 but that was a very good year.

10 **JUSTICE COOPER:**

And the Council – you are a statutory body.

MR LUMSDEN:

Yeah.

15

JUSTICE COOPER:

And you have a – what's your status in terms of your current options?

MR LUMSDEN:

20 We are a thing called an autonomous Crown entity –

JUSTICE COOPER:

An autonomous Crown entity?

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MR LUMSDEN:

Yes. Which means we are owned by the Crown but the Council members have responsibility for the decisions that we take in accordance with the Standards Act 1988 I think it was.

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JUSTICE COOPER:

Okay. When – on slide 3 you described the role of the Standards Council as including being an autonomous expert body, what is your expertise?

MR LUMSDEN:

- 5 Our expertise is actually in the standards development process which allows us to round up the appropriate experts and go through the standards development process along the lines of the consensus building that we talked about. We also have an expertise in knowing where in the world other standards are and being able to bring these into a state where they are
- 10 accessible by New Zealand entities in terms of this gateway to the international standards and we also have an expertise in promulgating standards in terms of being able to run our standards shop we call it. We divide the place up very literally into the factory and a shop to be quite vernacular about it, the factory builds the standards and the shop sells them.
- 15 So that's – and the ability we have to do those developments and disseminations as our expertise.

JUSTICE COOPER:

You referred on one of the slides, slide 9 to a backlog of aging standards?

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MR LUMSDEN:

Yep.

JUSTICE COOPER:

- 25 Now, just tell me a bit more about that.

MR LUMSDEN:

- 30 Some standards will endure for decades because it's a mantle cover or something like that. Other standards are subject to technological advances or safety concerns or what have you and need to be kept current. I think there's a sort of rule of thumb that a standard that is older than 10 years old, you need to have a look at it at least to see whether you want to do anything about

it. The value of a standard is obviously its currency because a standard that is obsolete is probably more harm than good. Debbie do you want to say something?

5 **MS CHIN:**

I mean the international practice, best practice is to view standards every five to seven years. The standards are now catalogued in the building construction sector on average over 10 years old in there. Those standards you know, represent a knowledge base that have been developed over many, many years and reflects expertise of you know learned experts. They are really a true knowledge base for people but they also reflect not only knowledge that is held here in New Zealand but Australia and internationally that we are able to pull together the expertise from around the world in documents.

15

JUSTICE COOPER:

So what are the main contributors to there being a backlog?

MS CHIN:

20 Because of our – the way that we operate the business we do not have the funding time to take the regular review of standards in a model where we rely on funders to purchase our services to review standards. So the current model is we will review a standard when there is somebody out there who can fund the review or the development of a new standard.

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MR LUMSDEN:

This is probably a topic for the standards and conformance review as I described earlier that it is ongoing but one of the issues we have is that our prioritisation process across all the sectors that we deal with is really governed by who wants a standard changed rather than what is in the national interest or even in a particular sector's interest so you know, this is the

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unfortunate truth about the matter that we will work on standards development, standards upgrades, review of all standards when some other body comes up with the wherewithal to do the job.

5 **JUSTICE COOPER:**

So do you write to people and say, it is really time this standard was reviewed, how about it?

MR LUMSDEN:

10 Our senior leadership team in fact is active in that all the time in terms of marketing our standards development services.

JUSTICE COOPER:

And here is the estimate of costs?

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MR LUMSDEN:

Yeah exactly, yeah. Have we got a deal for you.

JUSTICE COOPER:

20 And you are falling down in your job unless you spend that money with us. Is that the –

MR LUMSDEN:

25 Yeah well we try to convince industries of the benefit of our standard development and there are some new industries, there are, the new export industries are becoming very happy to work with standards to develop a standard that will help them in their enterprises.

JUSTICE COOPER:

30 And is there a particular – are there particular spheres of endeavour which are more lagged than others in seeing to the revision of standards?

MR LUMSDEN:

What we've tried to do is to recognise the current administration's economic priorities, so there is certain industries which you know, are of considerably more New Zealand ink susceptible to having standards worked on them and so we will you know focus on them but the truth is, if someone comes along
5 and they have got a new export product and they want a standard created that will help that, we will do that. Debbie?

MS CHIN:

Might I answer that question and look at what we've got in our submission is
10 the best practice model where we work with industry and the electrical regulator to prioritise or understand the risks and the issues in the industry and prioritise an annual work programme of standards and that I believe, it is a good model the way that we work with electrical regulator and that work programme and working with industry and that work programme we prioritise
15 the work that needs to be done internationally, work that needs to be done jointly with Australia and work that needs to be done locally.

JUSTICE COOPER:

And do you have in mind all the time the ideal which I think you said was the
20 seven year review?

MS CHIN:

Yes, so I mean that is worked through weekly and the great thing is that Standards Australia have initiated that at their end as well, well they've
25 initiated that. They're on a programme to say modernise their standards catalogue and do a review of all of their standards to ensure that there is a five to seven year rolling review of their standards catalogue.

JUSTICE COOPER:

30 All right, well thank you.

MR BUCHANAN:

Commissioners I have a little further information about the IRCC yet I can record and Mr Mills has suggested that I just put it on the record with you now. So the – it is the Inter-jurisdictional Regulatory Collaboration Committee and it was formed in 1997 following discussions between countries working on performance based building regulatory systems. So it is a forum for the performance based countries. The 10 members of the committee currently are Australia, United States, the UK, England, Wales and Scotland, New Zealand, Austria, Spain, Japan, Canada and Norway. I hope that's of assistance.

10

JUSTICE COOPER:

You are too fast for me, I stopped at New Zealand?

MR BUCHANAN:

15 Beg your pardon. So Australia, United States, the three UK countries, New Zealand, Austria, Spain, Japan, Canada and Norway.

JUSTICE COOPER:

So rather than the United Kingdom, it is England, Scotland and Wales.

20

MR BUCHANAN:

Yes with a bracket around them. Your Honour as mentioned earlier the membership of the committee is a government membership and so it may be that MBIE representatives during the panel discussion might be able to, Mr Kelly might be able to provide some further information about the work of the committee.

JUSTICE COOPER:

30 Yes, well I am not sure if we need to take it too much further but I just wanted to know who was on that group. So we'll take the afternoon adjournment. I think we are little behind in the programme now so I don't think that matters much Mr Mills because there was, it was envisaged that we start the panel

discussion for quarter of an hour so that can just – you can look forward to that tomorrow.

MR MILLS:

5 Yes, I am told that the panel session at 4.45 was just to tag end the day if the time was there but we can – as you say we can forget about that for today and run through the speakers –

JUSTICE COOPER:

10 Yes so we will come back at about 10 to four, at which stage we'll hear from Mr Burghout, and he and Dr Crauford can divide up the time and Mr Lumsden and Mrs Chin thank you very much your most interesting presentation.

HEARING ADJOURNS: 3.37 PM

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HEARING RESUMES: 3.52 PM

MR BUCHANAN:

20 Before we commence Mr Mills has suggested that I just correct a minor inaccuracy in some – one point of the evidence from the Standards Council people which related to that updating of the wind standard following Cyclone Yasi. The correct position is that the updated standard has been adopted by the New Zealand Standards Council so it is a joint standard but it hasn't yet been adopted by the – incorporated into the code.

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JUSTICE COOPER:

30 Well just explain that, it's been adopted so it's just a question of physically printing it, or ...

MR BUCHANAN:

It is a voluntary standard that's been adopted by the Standards Council under the Standards Act but the regulator has not yet had an opportunity to cite the standard in the Building code.

5 **JUSTICE COOPER:**

So what's it's number, it's 1170.

MR BUCHANAN:

It's 1170 part 2, wind loadings.

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JUSTICE COOPER:

Well that's better than it being part 0 to my mind.

MR MILLS CALLS**PIETER BURGHOUT (SWORN)**

Q. Now we've had Mr Burghout before and so in the interests of time and other things he's agreed to a commendably short CV here, we've got the
5 full one from the previous hearing so I'll just ask you your full name is Pieter Burghout?

A. Yes.

Q. And you are the chairman of the Construction Industry Council?

A. For my sins, yes.

10 Q. And the Chief Executive of BRANZ which is the Building Research Association of New Zealand?

A. I am, yes.

Q. And your paper is on the topic of building regulatory framework efficiency and improvements?

15 A. Correct.

Q. And he's also assured me he can keep this well within the time and we'll done by five o'clock with the other speaker as well.

A. There's two speakers to fit in before five o'clock.

Q. Yes that's right.

20 A. With your blessing Your Honour I've got some slides I'll work through. I'm happy to be halted on the way through them, I speak fast so intervene fast otherwise – and I just say from the outset, certainly from listening in today a number of the issues the CIC have been raising in its submissions more or less were covered well off by MBIE this morning,
25 some of the critiques we had been making of the system seem to be – MBIE was working towards fixing those critiques.

JUSTICE COOPER:

Q. You were happy with what you heard?

30 A. Certainly happy with what we heard, yes, yes. I'd like to say so that gave us room for optimism about how the system might work better in future. Just to note, I say it again, the CIC is club of industry organisations. We look, see ourselves as the peak body of peak bodies

as it were, so there's 30 odd members and as you were just debating the role how the standards in general works about getting unanimous consent, we operate on the same principles that we have to get unanimous consent from the people around the table. I reverse that and talk about a no violent opposition to anything we agree on or work on, but nonetheless it is the United Nations of the building industry and we work as collaboratively as we can as organisations. Not all the organisations are full members. There's a few that are observer members and I've just highlighted those four organisations. I'd like to say, IPENZ, ACENZ, architects, New Zealand architects, Registered Master Builders, the Contractors Federation, Certified Builders Association, you name them, most of the peak bodies are there in one shape or form.

Q. I don't recognise the one with the pale green background, looks like New Zealand –

A. New Zealand Green Building Council.

Q. Okay, sorry about that.

A. It's all right, I'll tell her that her logo doesn't look very good, and just as a brief introduction we do – have made quite a bit of effort over recent years of putting strong policy input into the reform of the Building Act and we attached in our submission for example the briefing to the incoming Minister and if you had the benefit and pleasure of reading that, that sort of very well explains the CIC's position, but most of our policy statements were well captured in that document.

As opening comments, the system as we see it is not broken, but it can be improved and the three elements that we've talked about were better, smart or oversight by the regulator, improved stewardship mostly by the regulator but by all parties, and improved funding. If I had to put it into a nutshell the industry's seeking better access to the right up-to-date consistent and credible information sources. No one wants to design or build a bad building. Well certainly the members that are represented by the CIC and I'm sure it's the same intent from the

Commission and the industry's looking for the right information on how to do that and it's as simple as that in its simplest form.

5 Taking that back to basics though, when we started the reforms and moving to performance based code, we were just discussing the IRCC model. This pyramid was the initial start that IRCC model where it was a simple pyramid, and then it has evolved over time into a bit more of a complicated pyramid. I won't go into the detail but what it does from our perspective, say the intermediate tier of that pyramid is where most of the debate we've been having today resides. How far does the regulator come down that pyramid and how much, how far do standards or other solutions come up that pyramid and it's that consensus that we were trying to establish around those roles or responsibilities in that pyramid that we've been debating for much of today. And just as a very basic example 10 odd years ago the code says a building needs to be structurally safe and then in the absence of any other directions the standards would say, well the earthquake requirement of within that standard is X, the structural elements are A, B and C and to achieve X for A, B and C you need to do this, do this and do that, and that what's been happening more recently is that the regulator is saying, no we need to treat those top three as policy issues because they are policy issues, and therefore what does standards work on and how do we capture that in the standards and that's the nexus of the debate that we've been having today in understanding the crux of that I think is the trick for going forward and I think from this morning we've heard that the dialogue has started about that interface.

20 The Government – it's coming back to the Government's regulator role, the Government does have a clear role in making the code and policy expectations more explicit. It hasn't been well done in the past for all sorts of reasons that were discussed today. Work has begun in providing that intermediate clarification, and I just say I think it will take a bit more working out to do. In the CIC's view that doesn't mean the Government should own or necessarily undertake the standards development work, and there's a good debate to be had of how much

does the regulator do and what's the code part of that versus what does the standards mix underneath that and who does that part.

We do need a comprehensive review and updating of core standards underpinning the building code, you've already heard that the portfolio is well out of date and again there's no point in building to outdated standards or having Australian standards run well ahead of New Zealand or whatever. If we're going to have a suite of standards underpinning the building code they need to be modernised and up-to-date otherwise there's no point in having them in the first place.

We also need improved access to code and referenced documentation. The CIC has been suggesting in this electronic world we should be able to make them electronically accessible and free to those who access them electronically and you've been asking a couple of times, what do you mean by this co-funding model. In the CIC's view you'd have the regulator develop and fund the standards that are cited in the building code. That's their job as a regulator to fund, but access to the standards is where you could charge the industry practitioner a small fee for getting access to the standards, because part of standards is revenue, is off the sales they make off their publication sales and for example I think Mrs Chin referred to the electrical registration model under those electricians who once they are registered in the system, part of their fee covers a small slice of access to the relevant standards in the electricity side.

25 Q. Did you come here today aware of the cost of the – of what it costs to run Standards New Zealand?

A. Not in a direct sense. I'm sure that that's a question you could have asked of the speakers before but – what we have been debating as an industry is how much would it take us to actually update the – and it's on a sustainable basis the building code and related standards into a point where we knew they were where they needed to be and hypothetically we've worked on a \$2m per year for up to four or five years to get everything through the system and up-dated in a way that will work.

Q. Well I ask what the figures were for this current year and I was told that they expect to generate revenue of \$7.5m and there will be a deficit of \$225,000. Now that is across the board?

A. Yes.

5 Q. So when one considers the breadth of the activities for which they provide standards it didn't seem to me like a lot of money?

A. No, and I say I think if we step back for a \$10b industry we're arguing for a small dollar amount about how do we keep up-to-date with the standards that underpin the industry, and I'll speak with a Branz hat for
10 a second. Branz earns \$10m research levy. MBIE earns a \$20m building levy. Between us we should be able to sort out how to modernise the standards suite.

Q. Well even if you couldn't I would have thought that, well some might argue that there's quite a public good element in this?

15 A. Well not for me to step in the shoes of the regulator or MBIE as a policy organisation understand the policy interventions they're looking to make but I would have thought that 20 million odd dollars of building levy per year should be able to be used to update the suite as we've been talking about.

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MR BURGHOOT CONTINUES:

And we've talked about the fact that we need to build up the communication programme with industry the same way that you've been confused by the framework and the model over at least today if not earlier. You can imagine
25 how many times that's amplified down through the system until you get to someone swinging a hammer on site and if we don't understand it then by heck they don't understand it and knowing how it works on site is where you're going to get the quality issues fixed properly so, like I say, getting that communication right through all the channels will be critical.

30 The reason the CIC was talking about a national policy statement is that same lack of clarity we were seeing through the dialogue today was that NPS was one way of fixing that lack of clarity. I don't think we've heard today that there was a report done in 2002 called the Angus Report that was sought to

understand the relationship between then the BIA, Standards New Zealand and Branz and codify how the three should work together to make sure everything was kept up-to-date and current and a lot of the debate about today has been that Angus Report didn't take us very much further and we're still debating the issues today as much as we were back in 2002 and so, like I say, the NPS was one way of us saying, "How do we get that role clarity? How do we make sure that the understanding between what the Government as regulator is doing? What standards is New Zealand doing as owner of the portfolio standards? And the role of research system, who funds what and actually developing a three to five year programme so you could actually make it work properly in the way it should work and, like I say, whether that's an NPS or something similar. What seemed to be coming through from MBIE this morning was essentially more or less all of that just by a different name. They were talking about sharing the work programme, talking about having an agreed funding programme and essentially that's what the CIC has been asking for for quite a number of years.

JUSTICE COOPER:

Q. Did you say sharing a work programme. Is that the phraseology you used?

A. Yes, yes it was.

Q. What do you mean by that?

A. I've used that in a couple of different dimensions. For Branz for example or any other research body to do the research to feed into a standards or code review we need to be doing that work two to three years ahead of, or at least starting at two to three years ahead of needing to know when the standard has to be reviewed. It doesn't help us when MBIE decides tomorrow or Standards New Zealand decides tomorrow to review X then we've got to figure out how to do the research that might feed into that so we need to see that cycle from a research perspective and from the other perspective the industry bodies that I referred to earlier that are members of CIC they will gear their members up to contribute to the standards programme or development

programme. They'll want to see what the programme of work looks like, who are the right people to then shoulder tap to bring through. If it's done on a too ad hoc basis that can't be managed properly or they keep going shoulder tapping the same person for the same work. The idea of having a published or at least an industry published work programme is that you can then start coalescing the right people around the table to do the work that you need to have done and prioritise between them. My own view has always been having chaired the Building Sector Standards Board for a little while was that the industry is very happy to volunteer its time generally as long as they know what they're volunteering it for, the work they are going to be putting in is recognised and it's going to be picked up and used and as long as you give them that clarity of work programme my own sense has been the industry is happy to stump up and give of its time to make the standards system work.

So that was the National Policy Statement. For me the biggest risk is that in a sense Christchurch survived well, generally well, from a monstrous series of earthquakes, and that's not demeaning the loss of life that we did face, but that was off the back of standards developed in '70s and '80s if not earlier when they were well funded and well supported and the CIC foresees the risk that if or when the next disaster strikes in 10 or 20 years time it will be worse because the standards framework isn't where it should be and I think it behoves us then to get that clarity of intent out of this exercise.

The final point we've noted in our submission is that the industry is missing what we were calling a "closing a loop" function. That we don't hear of the problems in the system until it's too late and how do we come up with a system where what the issues that BCAs are finding, the issues that practitioners are finding, the issues for example that insurance companies or warranty providers are finding are fed into a system where they can be in turn digested, sorted and then fed back into the industry because at the moment that doesn't exist. Everyone is worried about the liability that attaches to that and of course that means

that everyone ducks for cover rather than having issues elevated early. If you knew that there were two or three, listen to John Scarry this morning, if there were two to three instances of this appearing and you were able to flush that out early, feed that back into the industry early, that would help solve a number of problems rather than two or three years later still fighting the same fire because we haven't been able to get it back out to industry and, as I've noted, that will let us fix problems at the top of the cliff not at the bottom and if I've gone super fast that's me.

10 **QUESTIONS FROM COMMISSIONER FENWICK – NIL**

QUESTIONS FROM COMMISSIONER CARTER – NIL

JUSTICE COOPER:

Mr Burghout thank you very much. Will you be here tomorrow?

15

MR BURGHOUS:

I will be here tomorrow. I'm here for the panel.

JUSTICE COOPER:

20 Good. Thanks for your contribution which is much appreciated.

WITNESS EXCUSED

MR MILLS CALLS**NICKI CRAUFORD (SWORN)**

Q. I am going to ask you to state your full name because I think I may not have all of it in front of me?

5 A. Nicola Lane Crauford.

Q. You're the Deputy Chief Executive of IPENZ?

A. Correct.

Q. And in that role you oversee the Engineering Practice Group and Investigations and Disciplinary Processes?

10 A. Correct.

Q. You hold a Bachelor's Degree in Chemical Engineering?

A. Yes.

Q. A Doctorate in Fluid Mechanics and Combustion?

A. Yes.

15 Q. And you're a Fellow of IPENZ?

A. Correct.

Q. I will just then let you present your paper as you wish to do.

A. Thank you. I don't think I'm going to talk quite as fast as Mr Burghout but I'll do my best to get through this as fast as we can.

20

JUSTICE COOPER:

Well, seriously you just spend the time you think it needs.

A. Some of it, of course, at this stage of the day ends up being slightly a
 25 repeat of what other people have said but on the other hand I'm sure you want to know the views of IPENZ and ASCENS whom I'm here to represent. My talk is in three parts – first of all the efficacy of the building regulatory framework. Then I'll talk a little bit about the funding model for standards, and I do have a couple of slides on the code of
 30 ethical conduct for engineers that we spoke about yesterday. If there isn't time we can leave those out. It is a slight repetition of yesterday but perhaps a slightly different angle as well.

- A. So talking about the regulatory framework and the need for a better understanding of the regulatory framework. I think a number of parties, for example INZ is telling us that in practice the BCAs find that a high proportion of applicants for a building consent inadequately describe how proposed buildings will comply with the building code, and we have a concern that there seems to be little incentive to get it right first time, and it appears many applicants are submitting with the minimum of information, and this leads to what MBIE described as an undue reliance on BCAs to identify errors. SESOC and others have been sceptical of the value that BCAs add and are seeking regulatory backing for design and construction certification such as producer statement system, whereas MBC has no role for them. I think these are examples of confusion out there as to the, as to how the regulatory framework operates.
- Standards is another issue where there is some confusion. We are concerned that a lack of understanding can lead to a perception of poor compliance and poor performance by sector participants and this in turn can lead to a perception of the need for greater and more prescriptive regulation when what we believe is needed is a greater understanding and education.
- Secondly, a national policy statement. I think that we have clarified here that we're not meaning a national policy statement similar to that under the RMA but really greater clarity at the policy level, and this would probably assist with better understanding as well. So I guess what we're after is a clear statement as to what the regulatory framework is trying to achieve and then how participants go about complying with that regulatory framework. Then after that a measure of whether the regulatory framework has been successful or not. We agree with MBIE that all policy decisions should be made at national level by the appropriate agencies. For example it's a policy decision as to whether protection of life is the focus of regulation, or whether maintenance of building serviceability is also important. Policy decisions should then be

informed, should then inform legislation and regulations and flow through to the building code, standards and guidance documents.

A model with policy decisions made nationally would enable separation of policy decisions from the technical means by which to give effect to those policies, ie, how to comply, and these policies need to be sufficiently comprehensive so compliance documents do not become policy by default.

Thirdly, clarity of roles after an event. Now this is an area that has been covered at a previous hearing so I'm not going to go into it in any detail, other than just to summarise our position. The current regulatory framework did not enable a seamless transition from response to recovery. The transition from working under the Civil Defence Emergency Management Act 2002 to the Building Act 2004 did not go smoothly following the February the 22nd earthquake and lifting of the subsequent state of national emergency. Our belief is that the reasons for this need to be investigated and the problem remedied. We did propose a solution in our submission but I have to say that ASENZ and IPENZ are not particularly favouring any solution, we would just like to see it remedied.

Fourthly, the Building Amendment Act. We are fully supportive of the desire of the Bill to clarify responsibilities if only to ensure poor performers are made accountable. But we note that clarification of itself won't directly improve the quality of design and construction in the sector. In this regard we have a couple of definitional issues.

Firstly, we would like to see separation of design and building work. We recommend separate definitions which clearly discriminate between the two, whereby building work is work undertaken by the building contractor after a building consent has been granted, and design work is the work undertaken by designers for the purpose of gaining a building consent. The distinction is important in terms of clarification of roles and responsibilities, and as currently drafted in the Bill these are somewhat blurred.

Secondly, construction monitoring should be separately defined. Construction monitoring is not supervision and hence it's not building work as defined in the Act. Supervision implies an element of direction and control over the building contractor's activities, while construction

5 monitoring is the observation of work carried out with the primary purposes of providing a professional opinion to the owner, and/or the building consent authority as to whether or not the observed element complies with the building consent and any amendments thereafter. An engineer undertaking construction monitoring should not be considered

10 to be undertaking building work, and hence is not a building contractor. Another area where we believe more clarity is required is in relation to what is meant by risk-based consenting and how it will operate. If risk-based consenting enables the formalisation of a sound quality assurance process, appropriate to the level of risk, then we will support

15 it. If, on the other hand, it enables an environment where less risky projects get less attention as a means of saving cost, we do not support it. Certainly the indication from Mr Kelly earlier in the day was that at the commercial end of the scale there was an intention to have a more thorough quality assurance process and we would support that. I think

20 a common theme is that improvements can be made in the building industry by improving the engineering input into the design and construction of buildings. This needs to be encouraged and incentivised for all projects.

There's a history in the industry of small margins and the environment

25 exists where risks unfortunately will be taken. Less attention to what is perceived as less risky projects would create an environment where poor practice is accepted or at least not prevented. We would like to see more robust processes for design and construction review. Random auditing we think could also assist with this and should be part

30 of the risk based consenting system and indeed seems to us to be a natural part of measurement of the success of a consenting system, success or otherwise I guess. In addition, evidence of poor quality should be provided to IPENZ so that steps can be taken to either coach,

educate or reassess the engineer – if they are CPEng – or as a last resort to discipline them. We are keen to work with MBIE and practising engineers to develop the appropriate guidelines for a quality assurance processes as part of risk based consenting and potentially this could be based on our practice note which was handed to you yesterday Your Honour, structural engineering design.

JUSTICE COOPER:

10 Yes it went back to our premises I am afraid.

DR CRAUFORD:

I am more than happy you have this (inaudible 16:21:44) one as well. It provides an outline of design office practice. It was published in 2009 and could be updated and could be a very useful document. It is also supported by other practice notes on peer review et cetera.

Next, consolidation of BCAs. Some practitioners are sceptical of the value of BCAs. They've also been critical of the consistency of application of the regulatory framework. Perhaps the answer lies with the complexity of the project or when things start to go wrong because of the deficiency of documentation, time pressures or poor advice. However, we should acknowledge the improvements in BCAs knowledge in recent times as a result of their accreditation of BCAs. It is our view that the pros and cons of consolidating the BCAs either regionally or into one national model needs careful consideration. Factors to be considered are the level of understanding of the Building Act and the building code as well as structural engineering knowledge required. Where responsibility lies for identification of non-compliance with the Act or code, is also a factor of worthy consideration. BCAs have a potentially vital role as the best informed party in the consenting process and thus they are able to take an overview of the whole process. To quote Mr Allan, counsel for MBIE, "Checks and balances are the essence of an effective regulatory system."

Next, earthquake prone buildings. There is a need for better management of earthquake prone buildings. We need a more stringent approach to identification of these buildings, currently there is huge variability in the approach used by different territorial authorities with a significant number taking a very passive approach. There is a policy requirement, there is a need to set a policy requirement for a minimum standard which as you know is currently 33% of the new building code and a timeframe for appropriate follow-up action. Clearly there are economic considerations to be taken into account in setting these as well as societal tolerance of risk. In the past IPENZ has advocated for a minimum standard of 67%. This is perhaps an aspirational target given the scale of the problem and we acknowledge that economic consideration needs to be taken into account. However we would like to see the minimum standard gradually increase over time. Consideration also needs to be given to the treatment of heritage buildings. For example limiting their usage until reinforcement work is carried out.

We would support a tiered system whereby more at risk buildings would be given shorter timeframes for strengthening work to occur. In all cases information on earthquake prone buildings should be available to the public as they have a right to know.

Next, building warrant of fitness. This is an issue not well considered in the present policy and regulatory framework. The building code envisages buildings retaining their structural strength throughout their nominal 50 years of life with a tacit assumption that building owners will do necessary maintenance. Only specified systems which are things internal to the building are subject to regular building warrant of fitness. The Building Act does allow for a dangerous or insanitary building notices to be issued but this process is unlikely to be applied a slow deteriorative change.

A regular warrant of fitness regime identify loss of structural performance arising from two types of reasons. First, gradual deterioration caused by, for example inadequate protection from weather or sun leading to corrosion, or a damage event such as an earthquake or climatic event that uses up some of the building strength. In addition, as investigation tools and analysis become more sophisticated it may be possible to identify critical vulnerabilities in a

building that has previously been overlooked. IPENZ and ACENZ recommend analysis be undertaken to establish whether there is sufficient public benefit for implementing a regular structural warrant of fitness regime. Now I note that MBIE said this morning that some analysis had already been taken, had been done in the past. We are not aware of that.

5 In the next part of my presentation I would just like to talk briefly about the funding model for standards. This has been well canvassed today so I won't take too much time. We believe a new standard development model is needed and that it could recognise two types of standards. Those that set a minimum mandatory requirement and thereby support regulation and those that are voluntary but that are developed to be business enabling. Business enabling standards are developed by industry to assist business interests. They give the ability to develop products or gain market access. They also protect consumers when they purchase imported goods. An example of the regulation driven standard is the 11/70 which we have already talked about today and on the scale that Standards presented that would be the co-regulatory area and the quasi regulation area. Whilst this is probably a very simplistic split we think that at a principal level establishment of this dual mode would provide clarity as to who funds which standards. The current consensus driven decision making process is suitable for the development of business enabling standards and the industry funding is likely to be sufficient for this but for the regulation driven standards the development process may need, will need to be funded by the relevant regulator drawing on the expertise of the government's only standard agency. In order to ensure that the requirements of the regulator are met it may be that the usual consensus driven decision making process may not be appropriate or may need to be altered slightly and we understand that Standards New Zealand would be open to that kind of alternative. In addition, industry involvement is hugely important and often industry supports standards, sorry industry supported standards will be considerably easier for the regulator to enforce. To get the appropriate industry experts it may be necessary to fund them as the people have said and this should not be left to chance in our view.

We also support a systematic review of the existing portfolio of standards. This is vital to ensure standards don't become dated and are withdrawn if they are no longer appropriate and to use strategically important standards are developed in a timely fashion. The process of identifying standards and, sorry

5 the process of identifying problems and opportunities for the existing portfolio standards should be publicly funded in our view.

Finally I'd like to make a couple of comments on the code of ethical conduct for engineers.

10 **JUSTICE COOPER:**

Q. Just before you go onto that Dr Crauford, when you talk about systematic review, does that embrace such concepts as regularity of you know a periodicity about when you do it?

A. I would say so, I mean certainly Standards have said that they aim to

15 review standards every seven years and that sounds a very sound policy but clearly some standards are going to be – need reviewing more frequently and some potentially less frequently.

Q. Yes.

A. And I assume they take that into consideration.

20 Q. Yes, by all means go onto this other point.

A. Okay, won't take very long.

Q. We're not in – Mr Mills may have given you the impression that we were in a rush to be finished today but – we're – don't feel under any pressure please about the time.

25 A. Fine.

EXAMINATION CONTINUES: MR MILLS

Q. We have until five o'clock.

A. As already discussed there are two codes of ethical – of ethical conduct, one in the CPEng rules that applies to chartered professional engineers,

30 and the IPENZ Code of Ethics that is applicable to members of IPENZ. The minimum standards of behaviour set out in both the codes has been identical since January 2005. The Code of Ethics sets out an

engineer's duty of care to perform activities of the engineering profession in a careful and competent manner that might be expected of a reasonable member of the profession. The Code of Ethics reflects not just the values of the profession but also of the society in which the profession performs its activities. It applies whenever an engineer is engaged in engineering activities, not just when they are employed.

5

The code has five fundamental ethical values or principles on which it is based:

protection of life and safeguarding people,

10

sustainable management and care for the environment,

commitment to community wellbeing,

professionalism integrity and competence,

and sustaining engineering knowledge.

In the case of IPENZ, of the IPENZ code, these are supported by guidelines offered as a guide to be understanding in intentions of the values, but these are not exhaustive and they're not included in the CPEng code. The minimum standards of behaviour against which an engineer will be judged is supported by these five fundamental values.

15

Should a member of the public or another engineer consider that an engineer has acted in breach of the code, they can raise a complaint with IPENZ and it will be investigated and I have to tell you that it is reasonably common practice for both members of the public and for engineers to complain about another engineer, not necessarily just about the Code of Ethics, but both the codes.

20

Elements of the standards of behaviour detailed in the code are equally important. There's no hierarchy and all need to be taken into consideration simultaneously. The Code of Ethics is reviewed from time to time and the last time it was reviewed was in 2002 when the code was developed and then adopted into the IPENZ rule in 2005. So as Dr Cleland mentioned yesterday a review is probably timely and we will look into that in the next few weeks.

25

30

I did however want to talk a little bit about competing obligations because it has been suggested that the Code of Ethics can be

perceived as creating competing obligations as it – this is the one that applies currently, not obviously the historical codes. On the one hand the code precludes the disclosure of information to anyone other than the client who has commissioned the work, and on the other hand an engineer must take reasonable steps to safeguard health and safety.

5

We don't believe there is a conflict, if I could have the next slide please. Rule 50, oh, next one again please, there we are. Rule 50 does say that a chartered professional engineer must not disclose confidential information or – of an employer or client without the agreement of the employer or client, but then it says that this does not apply if the failure to disclose information would place the health or safety of people at risk and at significant and immediate risk. Now the rules – so the rules themselves provide that health and safety does override any obligations of confidentiality.

10

15

JUSTICE COOPER:

Q. I suppose and the way this is drafted at the moment, the risk would have to be both significant and immediate so maybe that – there's room for some consideration there because maybe better coverage would be obtained if it's significant and/or immediate risk, or maybe the whole concept of immediate risk is something that needs further consideration or could benefit from it.

20

A. I think that's right. I think that significant and immediate is not defined and that obviously that would depend on the situation but that is obviously at the discretion of the engineer. In the past we have provided some form of guidance as to what significant and immediate risk might be and maybe that is the other way to go.

25

Q. Yes.

30

A. Rather than changing the code to provide greater guidance as to what might mean.

Q. This is – analogous to the issue that arises in the dangerous and earthquake prone building setting whereby the concepts are treated differently and whether there's an immediate risk you know of damage to a building in an earthquake depends on there being an earthquake.

5 A. Absolutely.

Q. So is there an immediate risk or not when you're in an aftershock sequence, and so, that's just something that might be looked at I would have thought?

10 A. And certainly in the past we have provided some guidance in that regard, and Commissioner Carter yesterday asked that we provide some information on what guidance we have provided on.

Q. Yes.

A. Ethical matters and we will be supplying that to you over the next day or so.

15 Q. Thank you.

A. The other point I just wanted to cover was concerns have been expressed that some engineers may have practised outside of their area of competence. I have to say that no evidence of this has been provided to us and if it is occurring on a regular basis then that is a disappointment to us because we would like to investigate it if it is occurring on a regular basis. The Code of Ethics does require, and if I could have the next slide please, require that an engineer does not misrepresent their area of competence and Rule 46 is the relevant one, “(a) not misrepresent his or her competence; and (b) undertake engineering activities only within his or her competence; and (c) knowingly permit engineers that work that – whose work he or she is responsible for to breach paragraph (a) or (b)”. So the (c) is obviously – is relevant to someone who is supervising perhaps a more junior engineer and this was added when the last review took place in 2002.

25
30 Q. Paragraph (a) there, not misrepresent his or her competence, that's, it's just a general obligation and it could apply to anyone. I mean the – I'm talking about to whom the duty is owed, is that the way you read that?

1640

- A. Yes. In addition we would hope that most engineering practice will have quality assurance procedure which should ensure that work of an engineer is of a sound quality. If an engineer is undertaking work for the first time or is inexperienced in a particular field, they do have an obligation to seek advice from a supervisor or peer review. Even as has been suggested, classifications of areas of work were developed and these, there would still be a need to rely on the Code of Ethics to ensure that engineers do not work outside of their competence as not all engineers will be competent in all aspects of the classification. And that is why the area of competence of each engineer is determined individually with his or her assessment panel.

JUSTICE COOPER:

- Q. That's for the CPEng process?
- 15 A. This is for the CPEng process. Certainly that's, it's the same for the MIPENZ process except that there is not a periodic reassessment. For the CPEng process there is a periodic reassessment and then the area of competence would be either reviewed, adjusted or confirmed. So in conclusion, we're of the view that it is inevitable that significant reliance will be on the Code of Ethics with a reporting to a disciplinary process as a backup system. We don't really see that we can get too prescriptive in that regard.
- 20 Q. Yes, is there anything in the Code of Ethics about obligations for mentoring of engineers who might be employed. Is there anything about that process of supervision and –
- 25 A. I don't have the Code of Ethics in front of me. There is certainly an area of sustaining engineering knowledge and working to ensure that that knowledge is continuously developed. I don't have the wording in front of me.
- 30 Q. But that would be the engineer, him or herself wouldn't it, (inaudible 16:42:39)
- A. But it also involves working collegially with other engineers.

Q. And what about an obligation to check plans? Is there anything in the Code of Ethics about that?

A. No it's really not that specific.

Q. No, I suppose it's not really an ethical point is it really?

5 A. No and also the Code of Ethics covers all areas of engineering, not just those involved in the structural field.

QUESTIONS FROM COMMISSIONER FENWICK - NIL

QUESTIONS FROM COMMISSIONER CARTER - NIL

WITNESS EXCUSED

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JUSTICE COOPER:

I thank everybody who's participated today and for the focus that each in his or her own way has brought to the subjects we've been discussing. We will adjourn now till 9.30 tomorrow.

15 **HEARING ADJOURNS: 4.44 PM**

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