

**COMMUNITY DEVELOPMENT AND JUSTICE
STANDING COMMITTEE**

**INQUIRY INTO THE RECOGNITION AND ADEQUACY
OF THE RESPONSES BY STATE GOVERNMENT AGENCIES
TO EXPERIENCE OF TRAUMA BY WORKERS AND VOLUNTEERS
ARISING FROM DISASTERS**

**TRANSCRIPT OF EVIDENCE
TAKEN AT MELBOURNE
TUESDAY, 3 JULY 2012**

SESSION ONE

Members

**Mr A.P. O’Gorman (Chairman)
Mr A.P. Jacob (Deputy Chairman)
Ms M.M. Quirk
Mr I.M. Britza
Mr T.G. Stephens**

Hearing commenced at 9.34 am**THORNTON, DR RICHARD**

**Deputy Chief Executive Officer, Bushfire Cooperative Research Centre Ltd,
5/340 Albert Street,
East Melbourne, 3002, examined**

The CHAIRMAN: On behalf of the Community Development and Justice Standing Committee, I would like to thank you for agreeing to meet with us today. The purpose of the meeting is to assist the committee in gathering evidence for its inquiry into the recognition and adequacy of the responses by state government agencies to the experience of trauma by workers and volunteers arising from the disasters. The Community Development and Justice Standing Committee is a committee of the Legislative Assembly of the Parliament of Western Australia. The committee may look to use information it receives today as part of its deliberations for its final report. Have you completed the “Details of Witness” form?

Dr Thornton: Yes, I have just done that.

The CHAIRMAN: Do you have any questions in relation to appearing at today’s briefing?

Dr Thornton: I do not believe so.

The CHAIRMAN: Please state the capacity in which you appear this morning?

Dr Thornton: I am the deputy chief executive officer and research director for the Bushfire CRC.

The CHAIRMAN: Can you tell us what the Bushfire CRC is about—what sort of work it undertakes?

Dr Thornton: I have a statement I would not mind reading from, if that is okay.

The CHAIRMAN: That is fine.

Dr Thornton: I have just got my thoughts in order.

I am the deputy CEO and research director for the Bushfire CRC. That is the position I have held since about 2004, so it is just after the Canberra fires that I started this position. The Bushfire CRC is a not-for-profit company limited by guarantee. It conducts research on behalf of its members or stakeholders. The Bushfire CRC is funded by three broad ranges of parties. The first party is the commonwealth government. The states and territories are also parties to the CRC, mostly through their agencies and the research partners we have. The commonwealth has provided funding for the past almost 10 years now through the Commonwealth Research Centres program. It started in 2003 initially for a period of seven years up to 2010 and then, following the Black Saturday fires of 2009, a further three years of funding to 2013. The current funding from the commonwealth is due to complete in June next year and no further funding has been provided to the CRC to date. However, we are working closely with the states and territories and the commonwealth in an attempt to ensure there is ongoing funding for research across all hazards and we want to move more into the broader space of all the hazards. Unfortunately, to date, this has not been successful. Also included in the commonwealth funding are partners such as the Bureau of Metrology, the Attorney General’s department and Geoscience Australia. The states and territories, including WA, contribute both cash and in kind to the CRC through their fire and land management agencies. In WA’s case this is both FESA and DEC. I am happy to give you this if it helps at the end. The third category of funding comes from the researchers themselves, in particular in the form of in-kind services relating to, effectively, discounted research services. However, in the earlier funding period—the period 2003

to 2010—the universities contributed cash as well. Of note to the WA side of this, UWA is one of our major partners in the CRC.

The mission of the Bushfire CRC overall is to provide science and research to enable agencies to deliver safer communities. Our research program between 2003 and 2010 had four broad areas around safe prevention, preparation and suppression, management of fire and the landscape, community self-sufficiency for fire, and protection of people and property. These research areas arose from major issues following the 2001 fires, which impacted in and around Sydney at Christmas time. The last of these programs had a focus on health and safety issues relating to firefighters. It has to be said at this stage that the focus was more on the physical aspects of firefighting. However, we did start to look at the human factors issues of firefighting at crew level looking at the broad questions relating to why good firefighters make poor decisions at times. This was a psychological analysis conducted by La Trobe University here in Victoria and now forms the basis of a fairly major course that is being conducted by the Bushfire CRC on human factors in fire fighting. Two weeks ago that was held in WA down in Busselton.

During 2009, when the Bushfire CRC was in the midst of completing its research program and developing a research agenda to meet the future challenges of 2020 and beyond, the tragic events of 7 February occurred, a day now termed as Black Saturday. This has had a profound impact on fire and emergency services and management agencies throughout the world. This was for a number of reasons. Victoria had been seen by many as a leader in community safety relating to bushfires and many agencies were doing similar things to what Victoria was doing. For many people to perish in such a short period of time was devastating to most and the repercussions were huge, including in the US and other places where they were looking at the same policies. It should be noted in relation to your terms of reference that the trauma was felt by all those who were closely related to the fire industry—not just those on the ground, but those working in community safety and planning policy as well. These people should not be overlooked when treating the impacts of major disasters. Following these fires, the Bushfire CRC established a research task force to collect data from the event, especially the data that was likely to be eroded by time. There are three major components: one was the physical indicators of fire behaviour; the second was observations of building losses and saves; and the third was detailed semi-structured interviews with survivors in their place of residence.

[9.40 am]

This later part included a mail-out survey of all the fire-affected areas. We did not explicitly ask whether any of these residents were volunteers or firefighters, although I am sure we can pull out some of those if we needed to. The survey we sent out contained some detailed questions regarding indicators of post-traumatic stress developed by researchers at Melbourne University's Australian Centre for Posttraumatic Mental Health. Various reports on the analysis of the interviews and surveys are available on our website, or if you wish I can supply you with electronic copies of those. We also work closely with the Victorian Bushfires Royal Commission. Indeed, the Bushfire CRC was contracted by counsel assisting the royal commission to extend some of the work we have been conducting.

The work on collecting data spanned a period of about three months with teams of around 30 researchers in the field nearly every day during that period. These teams comprised sets of crews comprising building researchers and social scientists—the first time this combination had ever been used together out in the field. The teams were made up of both academic and agency personnel from around the country and New Zealand. This enabled the capacity to be maintained over that fairly intense period. As these teams were going into potentially dangerous conditions we undertook extensive OH&S briefings to cover the physical conditions likely to be encountered; for example, asbestos exposure, rotting food, downed power lines et cetera—physical things. We were also aware, particularly for those who will be interviewing residents, that there was a very high risk of

being exposed to the harrowing stories and people who were traumatised about what they had encountered and seen. It was also possible that some of these people had lost close family and friends. To deal with this life exposure the CRC asked the Australian Centre for Posttraumatic Mental Health to provide briefings in regard to personal indicators of trauma for the researchers themselves and how to recognise this in others and where to direct people if they were traumatised by events.

Two things are interesting about this approach. Firstly, it was not the academic researchers who had problems relating to the interviewing; it was, in fact, the firefighters, mostly from interstate, who, on seeing the devastation in places such as Kinglake and Marysville were affected and left the teams—that was, left the teams early—because they could not reconcile why or how such a disaster could occur. These firefighters were, I guess, treated by peer support mechanisms that were put in place both in the agencies and people in the CRC. Secondly, we found that in some cases the interviewing of residents also provided a valuable outlet for some to talk about what had happened. It helped with the grieving process.

Following these events, the CRC has received some short-term funding to specifically conduct research into the events of Black Saturday and the royal commission. This funding completes next year. The industry and the CRC have deliberately focused on the national issues arising out of the fires and have three broad themes. One is about understanding risk; the second is about how to communicate risk; and the third is about how we manage threat. While, again, the research does not directly look at the issues relating to post traumatic stress, we are considering issues relating to health and safety in general and particularly the stresses relating to decision making. We are also considering the challenges of coordination of major events. It has been raised with us that although the direct impact of the disaster is traumatic in itself, especially for those in the front line, we need to recognise that, particularly for the volunteer, these response personnel are also members of the of the communities that are affected and in many cases they have been out responding to calls saving other people's properties and saving other people's lives while their own properties or the lives of their loved ones had been lost. The same is also true of those who man the incident teams at the state coordination centres—the control centres—or backfilling for those roles directly involved. What happens afterwards can also create immense trauma. Following Black Saturday the Victorian government set up a royal commission with very wide terms of reference which subjected many firefighters, public servants, and senior officials to intense, often hostile, questioning. The same is generally true of other disasters, whether it is a coronial inquiry such as in the Wangary or Canberra fires, or a special inquiry such as the two Keelty inquiries in WA, or indeed civil action. Those prolonged dissections of what went wrong are intensely traumatic for those called to account and have immense implications across the whole of the industry, with many asking: why do they volunteer for these roles in the first place? We know that people leave emergency services after large events, voluntarily or otherwise, and the trauma associated with, I guess, sackings or scapegoating, has a profound effect across the whole industry. It is worth noting that in many cases, the legal actions can take decades to resolve and are, in most cases, as our research would suggest, in favour of the state. Indeed, there is a case in point: the civil actions relating to those 2001 fires I spoke about earlier in Sydney have only just been resolved in the past month—almost 11 years after the event. The civil actions relating to the 2003 fires in Canberra are still playing themselves out. These areas are ones of concern to all emergency response and planning agencies and ones in which more research is required. It is not clear to me at least whether agencies and states provide sufficient support to those who are constantly reminded of the disasters of the past every time they step into the control room or put on their uniform.

The Bushfire CRC is a public-good research organisation which also conducts research on a contract basis. Currently, we are conducting research for the WA government through both DEC and OBRM to redesign the risk management processes for prescribed burning and to ensure there is

ongoing access to the state-of-the-art knowledge. Bushfire CRC is open to supporting the WA government and this committee in any way it can.

I am happy to answer questions, but I must say I cannot answer to questions related to individual agencies' policies or practice because I am not in an agency, but can only reflect on the research that we have conducted. I would like to thank you for the invitation to address the committee.

The CHAIRMAN: Thanks Richard. We do not need to ask any more questions—that is it; we are done!

Ms M.M. QUIRK: Just for clarification you mentioned OBRM. That is the Office of Bushfire Risk Management?

Dr Thornton: Yes.

The CHAIRMAN: Richard, you said you had relationships with DEC and FESA. Are they the only two organisations in WA?

Dr Thornton: In WA at the moment, other than the University of Western Australia.

The CHAIRMAN: And what does that extend to? Does it just extend to them asking you to conduct research?

Dr Thornton: They contribute funds to the CRC, both in cash and in kind. The majority of the contribution is largely in kind. “In kind” means access to staff—the staff working on research projects and those types of things. Both FESA and DEC have been involved in the CRC from day one. Like other state organisations, in Victoria the DSE, CFA and MFB et cetera are all members of the CRC.

The CHAIRMAN: You mentioned a little about conducting research on trauma and stress and the things that happen to fireys after these events. Have you come to any conclusions as to whether people are doing what is best practice, or have you not done enough study on it?

Dr Thornton: I do not think we personally have done enough study on that. I know that others have been looking at that. A lot of the work that I have seen relates primarily to looking at how communities recover, and we need to remember that firefighters in general are part of those communities. I am not aware of a great deal of research—certainly that we have done anyway—that is looking at the agencies or the state bodies themselves.

The CHAIRMAN: You also mentioned peer support in there. Can you give us a bit of an insight into what you have found?

Dr Thornton: We used peer support during the Black Saturday fires. We knew that by sending in researchers, a lot of whom were relatively young and a lot of whom were firefighters who were not used to talking to people necessarily—they are very good at attending and managing incidents, but they do not normally interact with the community in that way—the stories that were going to be told could be really traumatic, so initially we went through a process with the operational briefings where we not only did all the OHS briefings—watching out for live powerlines and hazards and all those types of things—but we actually put them through a fairly intensive briefing on what post-traumatic stress looks like and what trauma looks like to them so that they would recognise it in themselves. We put into place a fairly regular debriefing process so that they could actually talk to each other about what they had heard, particularly with some of the senior researchers that we had in place. A couple of firefighters left the teams early because they could not cope with what they were seeing. It was interesting that they were not the people interviewing; they were the people going around to the houses and looking at the house losses. They were met by the chaplains from the agencies as they got off their planes or whatever to make sure that they were okay, and they went through the internal processes that the agencies have in place.

[9.50 am]

The CHAIRMAN: What prompted you to set that up? You were trying to prepare people, which is not normally the thing that seems to have happened in the past with agencies.

Dr Thornton: From our perspective, we are very cognisant when we undertake social research about the need to undertake ethical research as a whole. All of our social research had to go through ethics committees at the universities. Some of the requirements that are placed on research on those grounds are that you have to have those supports in place. It is just good practice in an occupational health and safety environment to look after not only the physical wellbeing of your staff in the field, but also after their long-term mental wellbeing.

Ms M.M. QUIRK: I think you mentioned earlier some interstate firefighters. Can you expand on that?

Dr Thornton: We wanted a big crew in the field to start collecting the data because there was a large geographic area covering a lot of people. We knew that the Victorian agencies were overly stressed—“stretched”, not stressed; although they were probably stressed as well—because the fires were still going. We had people in the field by the Thursday after Black Saturday, so the fires were still going. Victoria was still very much in response mode. In order to find people to do the building assessments in particular, we went across the country using our networks to say that we could do with a whole load of building inspectors after the fire. Most of the agencies from around the country were very responsive to that. They saw it as a good thing to be collecting data for the industry as a whole to learn from. They also saw it as a good opportunity for more training about these types of events, which thankfully do not happen very often, but we need to be prepared for them. The only way you can prepare effectively for them is to have people trained in those areas. We had firefighters come to us from all around the country, including Queensland, WA, South Australia and Tasmania. We even had some researchers come over from New Zealand.

Ms M.M. QUIRK: From a research perspective, when these big events occur, you get people from everywhere, so it is obviously difficult to follow people’s progress after a big event. Are you aware of whether any protocols were being discussed in terms of being able to track the health and wellbeing of people who may be involved in incidents but are from elsewhere?

Dr Thornton: To be honest, we keep a close eye on our researchers—the academic-type people—and we very much rely upon the agency processes for the agency people. I think the broader issue, which you sort of hinted at in that question, is we were a fairly coordinated block of researchers of 30 people on the field. We knew where they were going and we had definite protocols that existed.

Ms M.M. QUIRK: I am not really talking about you; I am talking about the overall event.

Dr Thornton: There were a lot of other researchers who saw this as a great opportunity to drive down to Victoria and into places like Flowerdale or wherever and just start interviewing or poking around. Those sorts of ad hoc areas not only put the researchers at risk, but also could increase the risk of trauma of those in the area. It becomes really difficult to stop people from doing that when it is effectively a public area. The only area where there was actually any real control was the areas that were still fire grounds that were still nominally under the control of the incident management team, where there were police roadblocks and those types of things.

Ms M.M. QUIRK: You talked about the health and safety issues in relation to firefighters and some research that is going on there. Has that been conducted by La Trobe University?

Dr Thornton: There was some research in the early stages of the CRC that looked at what led to, I guess, good firefighters making poor decisions on the fire ground. We did that with La Trobe University, which was leading that. We interviewed people when they came off the fire ground, but particularly those who had had near misses on the fire ground. It was looking at what were the psychological stresses and what led them to make poor decisions. There were a whole load of findings that came out of that relating to mental overload and being unable to effectively extrapolate the future particularly well, overconfidence in their ability to do things, underestimating the rate of

fire spread and all those types of things. In the current CRC, we are conducting work that looks at putting firefighters under the stress of being sleepy or being hot and recovering under hot or smoky conditions, because that is where we ask a lot of firefighters to recover. We are also looking at issues relating to coordination above the incident management team, so looking at the shared models that people bring into the control teams, or the coordination teams, so that we can better understand where things start to go wrong in the coordination.

The CHAIRMAN: Richard, do you not do any follow-up with fireys or people who have attended an incident in terms of research —

Dr Thornton: No, we have not to date.

The CHAIRMAN: So you would not know anything about whether domestic violence has increased or anything like that?

Dr Thornton: No.

The CHAIRMAN: What particular research is UWA undertaking?

Dr Thornton: It is mainly run out of the department of psychology in UWA. There are three major research areas, one of which is looking at issues relating to the community and how the community is constructed. That is actually being led by Professor Carmen Lawrence. There is another set of work that is looking at the way in which people's intentions relate to what they actually do; so it is pulling the work back from the health industry. People have these great intentions of becoming fitter and healthier and losing weight and all those types of things but we never do because there is a bunch of other things we have to do. We are trying to apply some of that thinking into the preparedness space for fires and other hazards. The final group is looking at the concept of community worry. If the community is too worried about an event because it is too big for them, they will say, "There is nothing I can effectively do to prepare, so I won't bother". If, on the opposite end of the scale, they are not worried enough, they will say, "This isn't a big problem; it is a problem for somebody else," which is the classic response we got to Black Saturday and the Perth hills fires, and they will not do anything either. What we need to be able to do is shift the community's thinking into that middle ground to say that it is not so big that they cannot do anything about it and they do need to be worried about it so that they actually do some preparation.

The CHAIRMAN: How do you achieve that? Is that through legislation for lifting the standards for bushfire—I know that in Canberra they have outlawed certain building materials in bushfire prone areas?

[9:57 AM]

Dr Thornton: There is some of that. Our research is focusing on the psychological aspects of that preparedness question. Yes, you can beat people up about the way they prepare, but it is always more effective if they feel that they need to. So, the work that is being done there is actually being conducted by Professor Colin MacLeod from UWA who is using some of the techniques of cognitive behaviour therapy to tease out some of those aspects of how to move people as a whole. We know that we can do it on individual levels. Can we start to do it on community levels is the research question. With regard to regulation, we know that that works to a degree and it can certainly work in new housing. Where we always have a problem is the existing housing stock; it is very difficult to put building codes over the top of an existing housing stock. They are very slow processes to work through.

The CHAIRMAN: Something that has been occurring to me over the last couple of days is that we seem to be doing a *Back to the Future*—type thing. We used to all live as fairly small, tight communities before and everybody helped everybody out. Over the last number of years, we have kind of dispersed that and now we are starting to say, "Well, actually we all need to be a lot more tightly connected". Would that be true to say?

[10.00 am]

Dr Thornton: I think the relevance of that is there was work we did in the first batch of work in the CRC around volunteerism and the community's willingness to volunteer. We have a chronic problem, I think, across all emergency services that our rural communities in general are getting older, the volunteers tend to be therefore getting older and getting the younger generation to volunteer into fire services is becoming increasingly difficult. We do not quite understand the reasons for that but there is actually quite a challenge. A lot of that relates to a sense of community, particularly around the city edges. I mean, in reality do people in Roleystone or Kelmscott actually feel like a community or do they just feel that it is a place they live? There is a bunch of those things which we really need to understand and particularly the role that the local volunteer fire service plays in that, because in some rural areas that is the only community melding organisation other than the pub in some cases. So, I think it is important that we recognise the role that fire services or SES services or whatever play in building community, because that all helps with that community sense and therefore preparation.

Ms M.M. QUIRK: This is not directly on point, but CRC has been doing some great work in recent years. I just wonder what the sticking point is for the federal funding. You did say you get some from federal Attorney Generals, which is the —

Dr Thornton: At the moment, yes, but that is so specific, we are looking for —

Ms M.M. QUIRK: A specific project.

Dr Thornton: Yes, we are looking for, I guess, the block funding that we got from the CRC program. There has been quite a bit of discussion at various levels. We believe we are not eligible in the CRC program anymore; we have had 10 years in the CRC program and the policy says 10 years, unless you have got significant reasons to go for another five, which will relate to adoption. We have been working closely with the Victorian government to put a motion up to the standing committee on police and emergency management, which I think met last Friday. I am not sure what the outcome of that discussion was at the moment, so that is where we are at. We are working through, I guess, the bureaucratic processes that exist both at commonwealth and state levels.

The CHAIRMAN: Richard, are there any two particular things that we can take away from what you know about Black Saturday that we can distil in WA?

Dr Thornton: I think there are a lot of learnings at a number of levels that do not directly fit in to your terms of reference, though. We have been working individually with the agencies in WA and around the country, particularly around community safety and this context of shared responsibility about who owns it. But in relation to your terms of reference, I think the critical thing from our perspective is how do we make sure that the inquiry processes, which are right and proper, do not result in increasing the trauma and reducing the number of staff and volunteers that we actually have in the agencies themselves. Sometimes it is really easy for a committee of inquiry to have very narrow terms of reference which force the view backwards and do not force learning going forwards. I think that is where we need to be a little bit careful. A lot of the trauma, particularly in senior officers and in organisations, comes not from the event itself necessarily, but the inquiry process afterwards.

Mr I.M. BRITZA: You mean when an inquiry—this may be the wrong word—either is looking for or decides to make someone a scapegoat?

Dr Thornton: Yes, that is sort of the process but also even if you—I mean, the royal commission is a harrowing experience for anybody to go in front of, particularly if you feel you are on the receiving end of the questioning. It is right that people are questioned for what they do; however, we need to recognise that that whole process, even if it is proven that they did not do anything wrong, is still very traumatic because it forces them to relive the event over and over again, whether it is in the lead-up to it with their counsel or their legal representatives or in the witness box itself, which is a very open environment.

The CHAIRMAN: So what can we do to mitigate some of that?

Dr Thornton: I think it comes down to making sure that the peer support process within the agencies actually extends into those periods, which may be a long period of time. As I said, the 2001 civil proceedings have only just concluded, and our research would say that most of those—in fact, virtually all of those—civil actions have always come down in favour of the state. So, there is a lot of, I guess, thrashing in the background to deal with legal actions and legal approaches and inquiries and various other things that really stress the life of the senior people in the organisation that cause them to either leave or to move into other roles and you lose the capacity for the industry as a whole.

Mr I.M. BRITZA: The purpose primarily of an inquiry of any kind is because there is a—I think “distrust” may be too strong a term—lack of trust that the internal mechanisms will not be objective and they will not in fact deal with something that needs to be dealt with because they are protecting whatever. This fine line of a public inquiry as to a private one, I think we would all prefer it if the agency buttoned themselves into a corner and really were strategic in looking at their weaknesses, but I would imagine that it is an inquiry that forces that from an outside —

Dr Thornton: Do not get me wrong, I am not arguing for not having public inquiries; what I am talking about is that we probably need, when we are looking at the peer support levels that exist within agencies, to recognise the role that those inquiries have in increasing or not allowing recovery of the trauma that follows the disaster.

Mr I.M. BRITZA: Is it one thing to tackle the leadership who is primarily away from the incident than someone who is right on the ground?

Dr Thornton: I think there is a role for both and it is not just the operational staff either. The royal commission and indeed Mr Keelty’s report questioned people like the community safety groups, the people who put in place the preparedness documentation, all of those types of things, which is right to go back and look at them, but we need to make sure that it is not just the operational staff that are picked up with the peer support processes. The trauma, particularly for those who developed the community safety work in Victoria, was immense because they then questioned everything they had done for the past 15 years and whether in their minds they were responsible for those 173 people.

Ms M.M. QUIRK: While we have got you here, this relates to just some work you are doing in WA. The CRC, I think, collaborated with UWA on interviewing the Perth hills victims.

Dr Thornton: Yes, we did.

Ms M.M. QUIRK: I take it there will be some follow-up on that because there was some initial stuff, or has that report concluded?

Dr Thornton: That is largely concluded; the final report is on our website. I can give you copies of that if you want.

Ms M.M. QUIRK: No, that is all right; I know your website.

The other thing, you mentioned the assistance you are giving DEC and office of bushfire review management on their processes —

Dr Thornton: Yes.

Ms M.M. QUIRK: That is to do with prescribed burning?

Dr Thornton: Yes, it is. The major part of the work for DEC is to actually take DEC’s policies and practices and right up to the legislation—the CALM act and the FESA act, for example—and look at it in the context of the ISO 31000 for risk management. The reason for doing that is to make sure that you have actually got some of the best risk management processes that can be found. DEC as a whole have a good process and that is what that initial stuff is looking at; where it may be lacking is in some of the finer details of the new standard as opposed to the old Australian standard.

Ms M.M. QUIRK: So presumably what you recommend will then be the basis of OBRM, how they conduct their affairs?

Dr Thornton: Yes, and we have been working closely with OBRM as well to look at how what we have done for DEC can feed through to what FESA does as well. We are working with the current director of OBRM who sits on the steering committee of the piece of work that is funded by DEC to us. We have two consultants that are working for us on this, one of which was the person who actually wrote ISO 31000, which is the international standard or framework for risk management.

Ms M.M. QUIRK: And is there any other current active work going on in WA—anything for FESA, for example?

Dr Thornton: Not in contract work outside of the CRC. The whole of the CRC research program, both FESA and DEC have access to and have regular input into.

The CHAIRMAN: Richard, thanks very much for coming in.

Dr Thornton: Thank you.

Ms M.M. QUIRK: And I hope that money comes from somewhere.

Dr Thornton: So do we; there is still a lot more to do.

The CHAIRMAN: Thanks again, Richard. We obviously very much appreciate the effort you have made to help us get this information today. We will send you a draft of the transcript; please make any minor corrections. So again, thanks very much.

Hearing concluded at 10.10 am