T R A N S C R I P T

ENVIRONMENT, NATURAL RESOURCES AND REGIONAL DEVELOPMENT COMMITTEE

Inquiry into the CFA training college at Fiskville

Melbourne — 20 November 2015

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Professor Michael Ackland, Acting Chief Health Officer, Department of Health and Human Services.

The CHAIR — Good morning, everybody, and welcome, Professor Michael Ackland, who is the acting chief health officer for the Department of Health and Human Services. Thanks for coming in today. We are wanting to talk to you in terms of the roles and responsibilities of the chief health officer. I understand that you have taken over since the resignation of Ms Lester, who was previously the chief health officer. We are going to call her as well in a different capacity, but we are waiting for her to come back from overseas.

Just before you make your presentation — because we did ask that you provide us with a presentation, and then after that we will ask questions — I will quickly read through some of the formalities in terms of this parliamentary committee hearing. As outlined in the guide provided to you by the secretariat, all evidence at this hearing is taken by the committee under the provisions of the Parliamentary Committees Act 2003 and other relevant legislation, and attracts parliamentary privilege. Any comments you make outside the hearing will not be afforded such privilege. It is an act of contempt of Parliament to provide false or misleading evidence to the inquiry, and, if you do not mind, if there is further information that we require or that you cannot provide today, we will ask that you provide that at a later date. All evidence today is being recorded, and you will be given a copy of the proof so that you can check it for accuracy, once it is available. In saying that, I now pass over to you, Professor Ackland, and we are very interested to hear from you.

Visual presentation.

Prof. ACKLAND — Thank you, Madam Chair. I welcome this opportunity to address the inquiry relating to Fiskville and look forward to sharing information and assisting this committee in its deliberations. The interim report on Fiskville noted the high level of community concern in relation to cancer and other possible health impacts that may be associated with Fiskville. I especially want to acknowledge this community concern.

You can see an outline of my presentation, but I will be addressing the five key questions that you provided for me on 30 October this year. I want to make especially clear that references to actions or views of the chief health officer in this presentation relate to myself as the acting chief health officer, and to clarify, that commenced for a six-week period commencing 18 October 2013 and then resumed in early 2014, when Dr Lester was offline in relation to the Hazelwood mine fire inquiry, and I have been acting chief health officer most of this year — since her retirement.

I want to show you this slide, not to read out this definition, but it is a very classic definition, recorded by the National Public Health Partnership. I want to emphasise just a few things here. Public health is about an organised response to society. It is about protecting and promoting health, and, really importantly, it is about the population as a whole, or population subgroups, as opposed to individuals in the community. These points really underpin the attributes of the role of the chief health officer in terms of the work that I do.

The chief health officer is a statutory office-holder appointed by the Secretary of the Department of Health and Human Services under section 20 of the Public Health and Wellbeing Act. The chief health officer has the following functions and powers. The first is to develop and implement strategies to promote and protect public health and wellbeing — no coincidence that those words are similar to the ones in the definition. Perhaps most importantly of all, I have a statutory obligation to provide frank and fearless advice to the Minister for Health and the Secretary of the Department of Health and Human Services, and I also have a statutory obligation to provide frank and fearless advice to this committee on its deliberations in relation to Fiskville.

There are some other functions that I will skip over. One is to produce a biennial report on the health of Victorians. There is a function to perform any other functions or exercise any powers specified under the Public Health and Wellbeing Act or any other act or under any regulations made under this or any other act to assess and mitigate public health risk — again, those key concepts. Subject to general direction and control of the secretary, the chief health officer has the powers, duties, functions and immunities that are conferred or imposed on the chief health officer by or under the Public Health and Wellbeing Act or any other act, and there are powers to enter into agreements or arrangements with any person for the purpose of obtaining appropriate expertise to assist the chief health officer in the performance of powers, duties and functions under the Public Health and Wellbeing Act or any other act or under any regulations made under the Public Health and Wellbeing Act or any other act.

In assessing risk, I am now going to show you a slide. Forgive me if it appears to be telling you how to suck eggs, but I really want to emphasise that, if this is not public health 101, it is one of the most important

frameworks for considering risk, which I ask you to consider very seriously indeed. In my 35-year career in public health it has been very common practice for me to apply this as a framework for assessment of risks.

In this context, firstly, the identification of hazards of concern is rudimentary. When there are many potential exposures to potential chemicals, or anything else for that matter, it is important to drill into which one is a matter of concern, and indeed there is a process which you can get to later which identified PFOS as a chemical of concern. Identifying doses of hazards and associated with what effects: I think you are already familiar with the concepts of tolerable daily intakes and no observed effect levels — metrics developed by Dr Roger Drew — but that helps one to understand the relationship between exposure doses and the effects on health, and then determining how people might be exposed to the hazards. This is about understanding what is going on in terms of, for example, windblown particulates, chemicals entering waterways, whether there may be contact with the skin, but as well understanding plausible biological pathways for impact on human health.

The next is about characterising risk, and that is fundamentally a rudimentary concept. That is about looking at the likelihood and the consequences of risks in relation to health and adverse effects, and then of course determining measures to mitigate risks that may or may not exist in relation to adverse health effects. There are a number of examples that I could give you, but I will leave that for later given the time pressures.

In relation to Fiskville, I want to emphasise that from the time that I was in the role of chief health officer I was actively engaged in a stakeholder multi-agency group, and there were meetings held to identify the scope of issues to understand and interpret information provided and to provide advice. This addressed a number of technical issues. It was essentially a technical group that considered technical matters, but it also had representation from the CFA, which was the lead agency. We had to host many of the meetings in our department, but the CFA was the lead. The EPA participated in this group, the then Department of Environment and Primary Industries, PrimeSafe and the office of the chief veterinary officer. Through this process there were active discussions often led by the chief health officer and consideration of the right time and the appropriate content for engagement with concerned members of the community, which was one of my highest priorities — to ensure that happened as early as possible in the process.

A key milestone was the issuing of two clean-up notices by the Environment Protection Authority Victoria in January 2013. That included a number of processes. There was the clean-up process itself. There was the appointment of an independent auditor, which is required under their act, to ensure that all processes are happening according to what is required, and there was the need to develop and implement a number of environmental and health risk assessment processes as a consequence from that. That is a package of really important activities that kicked off at that early time.

The chief health officer and other government agencies were regularly briefed by the CFA on the progress of these assessments and the management of contamination at Fiskville itself — and that means, if you like, inside the fence of the facility. But where there were potential public health risks — and in this context I am referring to risks to the community, if you will, outside of the fence — if they were identified the chief health officer was informed of assessments that were relevant to that. It was pivotal that early engagement across agencies with appropriate expertise informed that process. My considerations, for example, were relating to off-site transfer of PFOS into local waterways; off-site transfer of PFOS into neighbouring properties and potential health risks to residents, livestock and meat that would be sold for consumption; and on-site contamination of fish from Lake Fiskville and the potential for public health risk from people catching fish and eating them.

In relation to the question of PFOS standards, which arises a number of times in your questions, it is noteworthy that there are indeed no universally agreed Australian standards for PFOS and this is despite a significant amount of international evidence and ongoing research into the matter. What we do know is that PFOS is a common environmental contaminant and people may readily be exposed to PFOS in their daily lives. All of us in this room will be exposed to PFOS in minute quantities in our lives at the moment. There are indeed concerns regarding PFOS that relate to its environmental persistence. So it hangs around in the environment for a long time and has a half-life of around five and half years, and it is ubiquitous. It has pretty well been everywhere. Typically it was an ingredient in a number of household products, such as cleaning agents, Scotchgard-type products. It is part of fabrics, so your Gore-Tex jacket contains PFOS, and it is often used in fast food packaging.

In relation to the assessment of risks at Fiskville, the CFA commissioned a range of studies to assess the level of contamination at the Fiskville site and the potential for off-site impacts — and impacts, for example, to public

health. This included assessment of groundwater, surface water — that means creeks and rivers — sediments and soil, as well as measuring contaminant levels in staff, volunteers, visitors to the site, people from neighbouring properties, fish and wildlife such as rabbits and livestock. The assessment of public health risk involved the execution of a number of really important studies that were primarily conducted by Cardno Lane Piper with a health risk assessment overlay being delivered through ToxConsult, which was represented by Dr Roger Drew, who you know is one of Australia's and indeed the world's eminent experts in relation to this matter.

These studies generated the following key health measures, which were applied in the absence of Australian standards. Background exposure levels in the general community of less than 0.1 milligrams per litre in serum from blood is a really important concept. Every one of us in the room will have background levels of PFOS in our system which are reflected by that measure, less than 0.1 milligrams per litre. Then there is the concept of blood serum levels with no observed effect levels, otherwise known as the no observed effect level or NOEL, and there is a threshold level of 2 milligrams per litre in blood serum for that. That is a derived metric, which an incredible amount of sophisticated work by Dr Drew was engaged in, and that has been very helpful in understanding levels of PFOS in the blood below which there are no adverse health effects.

Another important metric is known as the tolerable daily intake. This is a metric which has a value of less than 0.15 micrograms per kilo of body weight, and this is an exposure standard set by the European Food Safety Authority. It reflects the amount of PFOS that can be consumed every day of your life, throughout your life, without any adverse health effects. That is a really important metric to understand because those metrics that I have described are the metrics which were developed on behalf of this investigation — and the TDI, of course, was available to us — which has been really important for us in understanding health risks.

Community engagement has been important, and I have already referred to it in relation to members of the expert group across government that I was part of. A number of my technical staff and one of my senior medical advisers from the office of the chief health officer have been actively engaged with the local community. There have been several visits to neighbouring farmers by my senior medical adviser, an environmental health expert, along with representatives from the EPA and the principal veterinary officer from the office of the chief veterinary officer, to provide information and to offer testing on soil, livestock and human health. This process has contributed information to the community on the work and studies being undertaken and the interpretation of results of environmental and health risk assessments. That is the tricky bit because some of the information is quite technical and there has been exceptionally good work, in my opinion, in translating that into relatively simple terms and getting people to understand how it relates to their own health and wellbeing. There is continuing engagement with members of the local community in relation to these matters.

In relation to particular visits to the facility, we ensured that there was a visitation from our water experts in my program, and that was to assess at a point when there was concern about the possibility of backflow of contaminated water into mains water at the site. That was established not to have occurred, but that was a technical assessment which was done with my people and others as appropriate.

So, the future: PFOS standards. There have been a number of recent studies done through the US EPA, the Agency for Toxic Substances and Disease Registry and the US National Academy of Sciences. In September our department commissioned a piece of work by Professor Brian Priestly which was the most up-to-date and comprehensive international evidence review that we were able to commission. I have tabled for this committee that document, which I have in my hand for your perusal. That is really important, because I would like to say and emphasise to you that the work of that review has, I would suggest, offered marginal information around the core elements of evidence that we had access to prior to that review being done. At no point has any of the work in that literature review fundamentally changed my principal position in relation to PFOS.

I would also like to acknowledge and note that the chief medical officer of Australia is convening a workshop of the AHPPC — that is, Australian Health Protection Principal Committee — of which I am a member, through its enHealth subcommittee, and that is going to be held as a national workshop in December to indeed discuss the issues that we are considering today and the absence of a standard for Australia and whether it is possible to in fact establish an agreed national standard, and I am expecting to be invited to that forum.

In summary, there are no agreed national standards in Australia for PFOS. Risk assessments have been used to determine any potential risks to public health from PFOS, and I have given you an outline of what that has

involved. Water and food contamination assessments have indicated that risks from PFOS are negligible. Based on available evidence I am satisfied, and I can give advice to this committee, that there is negligible risk to public health or food safety in relation to PFOS.

I will be working with other states and the commonwealth to ensure that Australian standards of PFOS are developed in the future. Thank you.

The CHAIR — Professor Ackland, you do agree that the activities at Fiskville were a risk to public health?

Prof. ACKLAND — I do, and it was a matter of doing a risk assessment to determine what was going on. In my mind it was necessary, and I do not want to over-labour this, but there are two very important elements that I have been aware of and have been very mindful of in our considerations. One is are there health risks in relation to people working inside the CFA firefighter training facility at Fiskville, and then there is a really important primary consideration for the chief health officer, under my statutory requirements and obligations, and that is the assessment of, if you like, public health risks — and I will just say metaphorically, 'outside the fence' — particularly in relation to the communities that had farms that abutted onto the boundary of the Fiskville site.

The CHAIR — Do you also agree that in terms of the effect of PFOS on people there is a lot of disagreement or there are a lot of different points of view about whether or not PFOS is safe for humans and at what levels it can be considered safe or not? Do you agree that there is a lot of disputation about that? Yes?

Prof. ACKLAND — Yes. I have been aware of lots of dialogue about the status of PFOS, and I have had to form a view on that as I have an obligation to do in providing advice.

The CHAIR — And you have based your view on what I think you said was 'appropriate expertise'. Is that right?

Prof. ACKLAND — I have based my view on an evaluation of the best available evidence that is available to us from the international literature, which I have pointed out has been updated very recently indeed. I have based my view on significant pieces of work that have happened consequent upon the EPA issuing its clean-up notices and the consequent environment and health risk assessments that have been done in a comprehensive way. I can just refer to, for example, the lamb and ewe study, which I am sure the committee is familiar with, which is the most robust study of its kind that has ever occurred on the planet in relation to getting an understanding of PFOS levels in the meat that would be consumed by human beings and the impacts that that could have on human health. The tolerable daily intake level is the level that was used in that evaluation.

The CHAIR — Just going back, I thought you were saying that you were relying on the advice from Dr Drew, who is one of the most well recognised people in this area, both in Australia and internationally.

Prof. ACKLAND — Dr Drew has been a very important person and player in the provision of advice to the chief health officer and other stakeholders who have been engaged in this but certainly not the only source of — advice .—

The CHAIR — So Dr Drew was employed by the CFA to do work for the CFA; is that correct?

Prof. ACKLAND — He was engaged through the CFA in the commissioning of environmental and health risk assessments.

The CHAIR — And you relied on his work to determine whether there was a risk to public health over the activities at Fiskville?

Prof. ACKLAND — I relied somewhat on his input, but I want to also make a point that I had to rely on my judgement, and the judgement was based on an analysis and a discussion about the merits and otherwise of work that had been done, so that is why there was that technical focus in that stakeholder group, to critically appraise in real time, as things were unfolding, the merits and otherwise of the work. For example, the chief health officer had some influence in, for example, the design of the lamb and ewe study and building an understanding of it. I would not want you to think that we just simply listened to Roger Drew, took his advice and went home and said, 'That's it'. It was not like that.

The CHAIR — So you took his advice, then you conducted a review of the rest of the literature. When you said 'the most recent studies', what were the years of the most recent studies we are talking about?

Prof. ACKLAND — I will have to take that on notice in terms of telling you the exact years, but this document that I have tabled actually contains a bibliography of the studies.

The CHAIR — That is the Professor Priestly review?

Prof. ACKLAND — That is correct. Our department, the Department of Health and Human Services, commissioned this literature review. That was to support and to validate the views and the judgement calls that I had made in relation to risks in relation to that. And as I have indicated in my submission .

The CHAIR — And you are aware that Professor Priestly has worked quite closely with Dr Drew for many years — over the years?

Prof. ACKLAND — Absolutely, and I am glad you have mentioned that, because indeed Professor Brian Priestly peer reviewed the work that was commissioned by the CFA and conducted by Dr Drew. That was a really important part of the validation process, so that increased the confidence that one had in the work that was being done.

The CHAIR — The fact that two experts that have worked together for many years and probably have a similar view — you do not think that it would be worthwhile also reaching out to some of the alternative points of view in terms of PFOS? We have heard from many experts from all over the country who have also referenced what is going on internationally and have different points of view from Dr Drew or Professor Priestly.

Prof. ACKLAND — Just to correct a comment about them working together, they have independence of each other, and I think it is not reasonable to assume that they were necessarily working together. The other thing is that the assumption that there are many people that we could draw on in Australia to do this work is not absolutely correct. There are people who could do this work, but we gave very careful consideration as to who the best people were that could provide advice. I think, in general principles, if we are seeking expert advice and we find that there is disagreement or there are matters arising from the advice that we are given that are a concern, that do not make sense or that do not line up in terms of the scientific analysis — and my team in our environment health unit has significant expertise in being able to appraise the technical merits of the analyses and the technical work that was done — if there was doubt in my mind about that, then indeed we would have sought further advice. But during the course of this unfolding matter, that was not considered necessary, and at this point I still feel satisfied that the advice we had was high quality, fit for purpose and also consistent with the results that came through in the studies.

So it is one thing to talk about the advice, but it is another matter to talk about the empirical aspects of the outcomes of the work that was done through the studies that were developed. Frankly the scientific work was more important to me than the verbal advice that was shared around tables and meetings and so forth. I was very impressed, myself, with the rigour of that work. It was peer reviewed, as I have said. I have got a group of people who are extremely competent to technically appraise that. I am satisfied that those studies are as best as they could be. A number of my colleagues — —

The CHAIR — Are you aware of the Stockholm Convention?

Prof. ACKLAND — Yes, I am aware of the Stockholm Convention.

The CHAIR — Has either Professor Priestly or Dr Drew presented to the Stockholm Convention? We have heard that this is the authority in terms of PFOS and PFOA and that most countries in the world have signed up to the protocols, which talk about the toxicity and concerns around PFOS and PFOA, and of course the manufacturers of PFOS have also stopped manufacturing. Would you not think these events mean that there is some concern around PFOS?

Prof. ACKLAND — I am not able to comment on the engagement between Roger Drew and Brian Priestly with the Stockholm Convention.

The CHAIR — So you are not sure if they have ever had any involvement?

Prof. ACKLAND — I cannot comment on that. I am not aware of that, and that is a matter that you should put to them.

The CHAIR — Are you aware of what the Stockholm Convention is and has said about PFOS and PFOA?

Prof. ACKLAND — I would need to take that on notice to provide you with an appropriately detailed response to that. Off the top my head I would defer to colleagues who would be more familiar with that than myself, but I am aware of it as part of the mix of processes that have been important in consideration of issues. You correctly pointed out at the beginning of this discussion that there are a wide range of views and issues under consideration, and I still want to emphasise the importance of us looking at issues relating to PFOS at the place where it was of concern and looking at the best evidence that we could get from robust research to form a view as to risks.

The CHAIR — In your considerations or in the considerations of the chief health officer, the Stockholm Convention on PFOS and PFOA was never taken into account by you, yourself?

Prof. ACKLAND — It was part of the advice that my team had provided to myself. I am not able to tell you in detail matters of content in relation to the Stockholm Convention. I am just not equipped with that information at this moment, but I could provide that to you if you wish.

The CHAIR — Okay, thank you. You were saying that you were very confident that the chief health officer — in your capacity as chief health officer — had done everything in terms of ensuring the protection of people around the contamination at Fiskville. But I think there have been times when the chief health officer probably has got it wrong — in terms of the Hazelwood fires. Do you agree with that?

Prof. ACKLAND — Well, no, I do not. I would like to make the point that I am not here to talk about the Hazelwood mine fire inquiry. I was not part of that. I am here to talk about this matter.

The CHAIR — No, it was just about whether there is always the ability to get it right in all circumstances and to make sure that you do fully investigate the health impacts.

Prof. ACKLAND — I have made the point at the beginning of my submission that I am the chief health officer for the purposes of the work that was done during the time when I was acting as the chief health officer, and that has been for a considerable period during this matter. I have formed the views, and those views have been based on an approach which is based on a very strong framework of thinking and analysis, and that is why I have emphasised that in my submission to you. One has to take account of a range of pieces of information to form a view. Ultimately I have an obligation to make a judgement call in relation to risks. I have taken account of evidence that has been provided to us, evidence that has come from what I might call action research, which is research that has been done during the course of this matter. From my point of view that was research that was happening as of 18 October 2013, when I took over as the acting chief health officer.

The CHAIR — As you would appreciate, we have to ask all the questions, too, to make sure that we get all the information.

Prof. ACKLAND — I do understand that.

The CHAIR — Can I just move on then from that? The next issue I guess is just a quick one about community consultation in terms of what the chief health officer does in terms of alerting people to information. One of the things that we have heard is that it was actually the CFA that was given the responsibility to alert people downstream, I think, of the Beremboke Creek not to drink the water. Why would that be the CFA's role rather than the chief health officer's? I will give you an example. In New South Wales, for example, where because of PFOS contamination there has been a ban on all fishing as a result of the Williamtown contamination of PFOS, the chief health officer, or actually the health department, issued the warning not to eat any fish, eggs or milk from contaminated livestock in the area, yet in this case it was the CFA that notified people not to drink from the creek.

Prof. ACKLAND — I pointed out that the CFA was the lead agency and chaired the interdepartmental stakeholder group, which I was part of, and the chief health officer had input into the discussion about the precautionary principle in providing advice to landowners downstream with the then uncertainty about the levels of PFOS that might be in the water. As I have said, the testing of water was part of the environmental risk

assessment that was conducted as a consequence of the clean-up notices that were issued by the EPA. Subsequently it was found that in fact there was insignificant risk from PFOS in the water downstream; in fact that was further confirmed by Barwon Water, who did their own risk assessment because of the Moorabool River flowing into the Barwon Water catchment. So there was a double assessment of that. It was a precautionary process by the CFA. It was my view, that my input into the decision about issuing that precautionary notice was appropriate.

My main concern, I have to say, was from a number of local farmers who shared a boundary with the CFA site who had particular anxieties, and remain concerned, about their health and wellbeing, principally because of reputational issues and anxieties that I know this committee is aware of, so I do not intend to go into that in detail. But it was essential that we looked at the real potential for risks in the communities that were most likely to be impacted because of the transfer of potential hazardous materials onto their land due to proximity to the Fiskville site. That was assessed, and PFOS was identified as the only potential chemical of concern for those particular farmers. Subsequently, as I have indicated, the chief health officer's representative, who is a senior medical adviser who reports to myself and who is also a general practitioner — which is noteworthy, because I am not — has visited that family. I think you know the family I am referring to.

The CHAIR — Yes.

Prof. ACKLAND — And is in the process of visiting other families, but has made several visits already and has provided personal advice based on the records of tests on that family's blood levels of PFOS and assessment of their general health status.

The CHAIR — Can I just understand, then, what you said? The CFA — the contaminator — was the lead agency in terms of the public health response?

Prof. ACKLAND — I am sorry; I missed the first part — the CFA? I missed what you said.

The CHAIR — You said that the reason why the CFA was the one that advised people not to drink the creek water was because they were the lead agency. I am just asking, is that correct — that the lead agency in this case was the CFA that was the actual organisation that was responsible for the contamination?

Prof. ACKLAND — They were the lead agency, and I believed it was fit for purpose at that time. It is easy to have another view in hindsight, but at that time it seemed appropriate that given there was no absolute evidence of PFOS contamination in the water that a precautionary note was provided to farmers downstream. I was really concerned to make sure that the most likely risks for adverse health were addressed, as I said, for the immediate neighbouring farmers around the site. Look, it could have been done differently, but I think the essential thing was that those messages were delivered. I was part of the discussion which led to that decision to have those messages delivered, and I think that is an important role that I have.

The CHAIR — Okay, thank you.

Mr YOUNG — Thank you, Professor, for your time today — the second time I have been able to speak to you in an inquiry.

Prof. ACKLAND — Indeed.

Mr YOUNG — Just regarding your comments on the two pieces of literature mentioned in here — —

Prof. ACKLAND — I beg your pardon?

Mr YOUNG — Regarding your comments on the two pieces of literature that you have mentioned here, you have stated that taking from that had not changed your primary position on PFOS and PFOA. You have sort of alluded to your position regarding more towards Fiskville, but could you just clarify to me what your primary position is regarding PFOS and PFOA?

Prof. ACKLAND — Firstly, PFOS and PFOA are two quite different chemicals, but part of the same group of perfluoro compounds. PFOA has a quite different toxicological profile to PFOS. PFOS has been identified, as I indicated, as the chemical of concern. So the focus of my attention has been on consideration of PFOS and

risks associated with PFOS. There has been no evidence at all that the communities that we have discussed have been exposed to PFOA. It is different — so no evidence that it was a chemical of concern.

Mr YOUNG — Just in a general sense, what would be your position on PFOS?

Prof. ACKLAND — I formed a preliminary view early in the piece based on my understanding of what was going on, and I have a view now. Those views are essentially unchanged — that is, PFOS presents no risk to public health or food safety in the context of what we are talking about. I want to say that any chemical exposure — any exposure to a substance — to human beings in excessive quantities can be harmful and can kill you. I do not mean to make little of this, but if a human being consumes too much water, it can kill them. In the quantities that the communities have been exposed to, my advice has been exactly as I have said — that it has not presented a public health risk or a risk to food safety.

Mr YOUNG — Are there any comments you would like to make on that position given the fact that there are no Australian standards for these chemicals?

Prof. ACKLAND — I have already alluded to my acknowledgement that there were no Australian standards, and my comment is that, as per my submission, I have sought to have assurances by having input to the design of a number of studies that have been done to provide assurances in the absence of standards that we have an empirical sense — that is like an objective sense — as to the level of safety or otherwise of the exposures to PFOS that the communities have had.

Mr YOUNG — In terms of community engagement and consultation, and even with the stakeholder groups, have you given any advice on PFOS?

Prof. ACKLAND — Indeed advice has been given. Particularly to the neighbouring farmers there has been a lot of advice given in relation to what we know and converting the empirical results from the studies into language that they can understand, listening very, very carefully to their concerns about the impacts that it is having on them and helping to analyse that. I made sure that my senior medical adviser, in fact it was Dr Danny Csutoros, who is a GP as well as my senior medical adviser, was engaged in that process along with the CFA's medical officer, but I felt that it was important that the chief health officer was at the front of the conversation with those members of the community. As I mentioned, it has been difficult to trace down the owners of some of the other properties. We now have appointments with some of those landowners. Literally as we speak they have been established, and the other landowners have been contacted and will be visited and we will be having that conversation. That is live as we speak.

Mr YOUNG — Do you feel that consultation has been successful and well accepted?

Prof. ACKLAND — I have been briefed by my senior medical adviser that they have felt very reassured that they have been given a clinical interpretation of the advice that we have identified in relation to what I have discussed this morning. They have appreciated that we from government have been listening to their concerns. There are of course a number of issues other than their physical health which are serious issues, and it has been important for us to listen to those concerns. We still have concern for those families, and we will continue to support them as needed.

Mr YOUNG — Just one more. Do you think that the engagement with this issue in the media has had any effect on the way you have been able to handle the consultation, and has it — —

Prof. ACKLAND — There has been a lot of background noise, I should put it, and that always makes it harder to focus on the things that one thinks are important in terms of messaging. But I have to tell you that I think we have been successful in engaging the communities that are most at risk in understanding what the issues are in relation to PFOS. There are other things that are outside of my domain, which relate to, for example, reputational issues relating to their businesses, the impact that proximity to the Fiskville site has had on their wellbeing and so on, which it is not my business to engage in.

Mr YOUNG — In your opinion how well has the CFA conducted themselves throughout this process?

Prof. ACKLAND — I can only comment on the work that was discussed and promoted through my involvement with the CFA, which I have already described to you, which I believe was high-quality work

which was commissioned by the CFA. I am not prepared to comment on other things that the CFA has done which I may or may not know about. That is something for the CFA to be asked about.

Mr TILLEY — Firstly, the committee is aware that you are soon to be retiring. I cannot speak for my colleagues, but I certainly thank you for your service to Victoria over many years in public health and wellbeing.

Prof. ACKLAND — Thank you very much.

Mr TILLEY — I will make mine very short. In the absence of Australian standards, which you in the future wish to have a significant contribution to to no doubt achieve an Australian standards, and with Australia not being a signatory to the Stockholm syndrome — sorry, convention — —

Prof. ACKLAND — There may be a syndrome.

Mr TILLEY — A lot of people call it the Stockholm syndrome around this place, but anyway, there is certainly the convention. What I picked up from your evidence, and I am not putting words in your mouth at all, but how comfortable with the issue of PFOS and PFOA are you at the current status that we are at today?

Prof. ACKLAND — Again I am not going to refer to PFOA because that has not been a matter that I have considered and has not needed to be considered in this context. I just want to underline that. In relation to PFOS, it would be wonderful if there was total international agreement on everything to do with this. I sometimes think when I go back to my career and I look at the hazards based on that risk framework that I have had to deal with, it is sometimes useful to build a perspective. For example, if I look at some of the issues relating to asbestos exposure, which have been very public in Victoria this year, asbestos, there is no question about it, we know absolutely, there is no disagreement whatsoever — it is a killer. We know the attributes of that. That is certain — no dispute.

If I go to some work that I have been involved in looking at the mercury contamination of the Gippsland Lakes and the potential for people to consume harmful quantities of mercury by eating fish caught from the Gippsland Lakes, that framework was used to the letter to analyse that situation and to determine what was going on. We were able to form a position because we know a lot about mercury that we do not know about PFOS, and that provided us with a lot of confidence. So that makes it easy in relation to a number of other things. It is relatively easy, depending on what the hazard is.

We are dealing with something here which has been in many ways generated by perceptions, which is always a consideration for the chief health officer in forming a view on issues. I have an absolute responsibility to get the balance right between perceptions that are often extremely valid — it is absolutely reasonable that the community should have perceptions; they will always have their perceptions — but to then say, 'Okay, I need to form a view as to where we are at'.

In relation to the view that I have formed, I am speaking to you with confidence today that the view I have is the view that I have and that I will adhere to, and at the moment, especially since I have received this advice from Brian Priestly, where as I have said there are some marginal points around the evidence, none of the information in this document, which is at your disposal, changes my view that I have expressed to you.

Mr TILLEY — So once again without putting words in your mouth, you are comfortable that would be best practice?

Prof. ACKLAND — That what would be best practice, I beg your pardon?

Mr TILLEY — What you have applied to the standards and the advice you are receiving and providing — —

Prof. ACKLAND — Okay. I believe that what has happened under my watch is best practice in terms of getting to a position that gives me confidence and allows me to provide as much confidence as I can to the community and to people like yourselves who are attempting to form a view where there is a maze of information that I do not envy your job to navigate.

Mr TILLEY — As you said earlier in your evidence, we have principally spoken about PFOS. You gave some examples in relation to asbestos, mercury and some other issues around Fiskville, including some of the earlier historical concerns in relation to some benzenes and solvents that may have been used on the site.

Prof. ACKLAND — Indeed.

Mr TILLEY — Are you able to provide the committee with anything in relation to any advice you may have provided — —

Prof. ACKLAND — I shall make some comments on that. Thank you. It is absolutely clear from the receipt of the Rob Joy report in 2012 that there was a very complex soup of chemicals, harmful chemicals, that were used in different contexts at the site, and there were three classes of risk for exposure to those chemicals, which you will be familiar with. Amongst those chemicals, we know, was PFOS. It was a chemical that was used as part of the composition of foams for extinguishing fires. We also know that it is a residual chemical, as I have said. So it hangs around. Even after clean-up processes it has the potential to hang around, although, I think, as I have said, the best job possible has been done to clean up.

In the two important studies that were done looking into risks associated with those multiple chemicals, the Monash cancer study and the subsequent Cancer Council Victoria studies, you will be aware that the two highest risk groups referred to by Robert Joy were known and shown to have elevated incident rates of cancers of various sorts, and they are specified. Now it is not possible in those two pieces of work to identify the attribution of any of those cancers to any one of the multiple chemicals that were being used on the site. It is not possible. Within what I have just said includes PFOS, which was one of those chemicals. Then you might say, 'Well, why aren't you concerned about PFOS being a carcinogen?'. So we go back to the evidence.

There has been some work done on this. A number of studies have been done, but largely animal studies. There is no evidence to date, and this literature review affirms this. There is no evidence to date that PFOS itself is an established carcinogen — that is, that it is an established chemical that causes cancers. There is just no evidence for that. There is an enormous amount of evidence that some of the chemicals that were used on site — I think you mentioned benzenes, for example — are absolutely some of the most toxic carcinogens that exist. So I think we have got to get the perspective right on this.

There is also no evidence that those other toxic chemicals were impacting on the properties neighbouring the site. I have indicated that the environmental risk assessments that were commissioned went into that carefully and established that the only chemical 'of potential concern' was PFOS outside. I hope that answers your question.

Mr TILLEY — On balance of what you have been able to learn in relation to the CFA training centre at Fiskville, and you have made some comments in relation to general household products and some of the other uses that continue today, such as dust suppression probably on a lot of our road network in its mining application, Gore-Tex — I love Gore-Tex; I have a stack of it — as far as public health exists, where does the balance lie between Fiskville and the other household and general uses where PFOS appears?

Prof. ACKLAND — Fiskville, if you are talking about inside, it does not matter whether you are inside or outside in terms of PFOS. My attention, as my statutory responsibility requires in terms of public health risk, is to the public outside, because they are occupational health and safety matters within the site. My attention has been to those communities outside. I am sorry, but I am going to have to ask you to repeat the question. I have had a brain skip there.

Mr TILLEY — Just in some of the other general uses where PFOS appears, are there some agricultural applications where PFOS appears in addition to — —

Prof. ACKLAND — There are multiple applications, and I am not familiar with all of them. To put it in perspective, I would just like, if I may, to mention the fish study that was done. There is a really important logical chain here. It was established very early on in the piece that the water in Lake Fiskville, which happens to be inside the boundary, had high levels of PFOS in it. It was highly contaminated with PFOS. We thought, 'Hello, we'd better test the fish that are swimming around in that lake', so the fish were tested. There were high levels of PFOS in the flesh of the fish. So then we thought, 'Well, that looks like a really, really significant risk exposure for people'.

So the voluntary surveillance program was set up to test for people who may have caught those fish. Twenty-two people participated in that study, and there were 12 people who ate fish. Most of those were workers from within the site — within the plant. There were 12 of them. All of the blood test results on those 12 people who had been eating fish regularly caught from that lake — the fish having high levels of PFOS in their flesh — returned levels well below the NOEL value of 2. Indeed nearly all of them — not all, but nearly all of them — returned levels that would be the equivalent to that which every member of the committee has in their own blood at the moment. If that helps you to understand the perspective of the biological pathway of exposure, which is principally through ingestion — that is, eating it — I hope that helps you to understand that is a fundamentally important part of the evidence chain that helps me to form a view about this exposure.

Mr RICHARDSON — Thank you for coming in, Professor. I just have a few questions. Firstly, I just wanted to get a sense of your interaction with the Monash health study into CFA firefighters that was commissioned by the CFA. Are you familiar with the findings and the link to affected — —

Prof. ACKLAND — You are talking about the cancer study?

Mr RICHARDSON — Yes.

Prof. ACKLAND — We were not engaged in the conduct of that study at all; we were aware that the study had been commissioned and we eagerly awaited the report on that study. We were extremely interested that the CFA chose to have that study replicated by Cancer Council Victoria. In my past life I developed a strong familiarity with cancer data. I think that it was really important that those studies, which looked at around 600 individuals each, determined a conclusion based on the risk categories that I have already alluded to. But we had no influence on that study.

Mr RICHARDSON — I will just take you to the functions under the Public Health and Wellbeing Act. Section 21(a), says:

> to develop and implement strategies to promote and protect public health and wellbeing.

Is it a concern to you that the issues at Fiskville were identified in 2011 and the office of the chief health officer had no involvement in that study up to and beyond 2014 and was not present?

Prof. ACKLAND — If you go back to 2011, the matter was brought to our attention through media reports in early 2012. I am not able to speak for the former chief health officer who was in the chair, but I understand that the former chief health officer was actively engaged with the stakeholders that I have been engaged with, and particularly the CFA, in considerations of what needed to be done.

An early decision was taken that the Joy report — the Joy work — would be done. The Joy report was produced. In response to the Joy report there were two clean-up notices issued by the EPA, so the EPA became engaged early in the piece. I think there has been a continuum of work that had to happen. It has taken time. The assertion that we should have done something quicker on the spot is nonsensical in the sense that you know from my submission that there has been a complex body of work that has been done to allow me to get the position I have got to today. But that sort of work does not happen instantly. It has taken time. I am very satisfied that the program of work that has happened from the outset has been fit for purpose, and I think it is wrong, even with your reference to the Public Health and Wellbeing Act, to assume that the chief health officer has to be, if you will, using his or her powers under the act to ensure that certain things happen.

It is important that the chief health officer has an understanding of the processes that are in place. If the chief health officer forms a view that there is something exceptional that is not happening when it should be happening, then that is a different matter. But I am satisfied — and I can only speak for myself — that what has been happening over the course of events has been absolutely appropriate and fit for purpose. In hindsight, it has taken time, but it is probably very difficult — perhaps it is not difficult because you have seen the maze of evidence and information, but there had to be a systematic process, step-by-step, to get to the position we are at at the moment.

Mr RICHARDSON — That relates to PFOS, but the Monash study concluded that there was a link between 16 deaths at Fiskville leading up to that period. It did not deal directly with PFOS but previous chemicals that my colleague Mr Tilley referred to. I will just take you to paragraph (b) of section 21, which says that the powers are:

to provide advice to the Minister or the Secretary on matters relating to public health and wellbeing.

Subsequent to the Monash study, did the office of the chief health officer give any advice to the secretary of the department for the Minister for Health, following those findings?

Prof. ACKLAND — There were briefings provided up the line. I cannot tell you the dates of the briefings off the top of my head, but there has been a continuum of advice and briefings on the progress of investigations. In relation to that study, I want to repeat: I think you did indicate in your preamble to your question that PFOS was implied to be causative for those cancers, and it is not — —

Mr RICHARDSON — No, that was not in the Monash report.

Prof. ACKLAND — No, so it is not. In terms of the complexity of that exposure, yes, we were aware of that. We knew that there was a clean-up process happening. If you have a problem like that, you either ignore it or you do something about it. It is appropriate that the CFA and the EPA work together and that the due processes under the clean-up notices, which were issued promptly after the issuing of the Joy report, were implemented, and that was done. That is what I still believe was required. Then the cancer studies came in on top of this — after the Joy report — and I am thinking to myself, 'It is very, very important that those clean-up notices actually got implemented as they did'. Indeed before all that information was available in relation to those cancer studies.

It is a matter for the CFA to understand what has happened in relation to the causation of cancers. I was never in a position to really do anything after the fact which could have influenced that, because you must understand that cancers just do not occur the day after exposure to a chemical. Cancers occur often months or years after exposures to carcinogens.

Mr RICHARDSON — Would the office of the chief health officer be happy to provide that information to the committee on what action has been taken subsequent to the Monash study?

Prof. ACKLAND — The actions that are being taken subsequent to the Monash study I think is a matter that needs to be addressed to the CFA in terms of their responsibilities.

Mr RICHARDSON — So you are saying that there has not been advice provided by the office of the chief health officer to the minister or the secretary in response to the Monash study that concluded there was a link to 16 deaths of firefighters at Fiskville?

Prof. ACKLAND — I am trying to unpack your question; there seemed to be two components to it.

Mr RICHARDSON — Was there advice provided?

Prof. ACKLAND — One is advice and the other one is doing something — —

Mr RICHARDSON — Let us start with the first bit. Was there advice provided to the minister or the secretary following that study?

Prof. ACKLAND — I will have to check our records, but it is my understanding that briefings to the minister and the secretary did indicate that the cancer studies had been done and that there was an excess number of cancers identified in the high-risk groups — in fact I know that happened. That was the advice that we gave, and the matter was being dealt with through the clean-up processes that had been put in place through the CFA.

Mr RICHARDSON — I might just come back to that point in a tick. Just on the PFOS and PFOA discussion, why has there not been a reference to PFOA in your presentation?

Prof. ACKLAND — The reason was that in the initial toxicological analysis of the chemicals that were able to be determined to be of public health risk PFOA, as I understand it, was part of the equation of assessment of chemicals. I indicated in my submission that PFOA and PFOS are two quite different chemicals with quite different toxicological profiles. The environmental risk assessment that was done at the outset, which was a comprehensive assessment of chemicals that could have been transferred — for example, by spray drift or through direct water transfer to neighbouring properties — failed to identify PFOA as a chemical of concern. It

did find that PFOS was in fact the only chemical that could be identified out of the potential mix that we referred to inside the fence of potential concern to human health.

Mr RICHARDSON — Why then in the CFA's response to the Joy report did they make significant reference to PFOS and PFOA in the same sentences, in fact saying:

> … Fiskville has shown that levels of a small number of residual contaminants, notably PFOA and PFOS, exceed human health or ecological guideline values.

Why are they referencing it? They are the statutory authority that commissioned the health study, yet there is no reference to it or there is no assessment of it when the own statutory authority is referring to it and highlighting it in their response?

Prof. ACKLAND — You will have to put that to the CFA. I have expressed my view about what I understand to be a matter of concern — —

Mr RICHARDSON — Do you think it is a concern, though, that the office of the chief health officer has not formed a view on PFOA when the CFA in its response to the Joy report has extensively referenced PFOA?

Prof. ACKLAND — We did form a view on PFOA by taking note of the environmental assessment that was set up by the EPA to establish what the range of chemicals of concern was for the surrounding communities. That was a specific piece of environmental risk assessment analysis that was done as part of the organised process following the issuing of the two clean-up notices. I can only say that for me that is the most important thing to take note of — —

Mr RICHARDSON — So unless the EPA brings it to you as a problem, there is no mechanism for the office of the chief health officer to become involved?

Prof. ACKLAND — No. The chief health officer has been involved in engagement with agencies and discussing the information that has come to hand through the whole course of this series of events. The information that has been provided through empirical analyses, scientific analyses, of the environment have results that I have described to you. I cannot change my description of the results to you, because that is the information that I have. I am not aware of the document that you are referring to where the CFA make assertions about PFOA, but there has been no reason for me to believe, consequent upon the environmental assessments that have been done, which I had confidence were appropriate and fit for purpose to ascertain what was going on, that PFOA was a chemical of concern. That is the position. I can only tell you that that is the view I had to form based on the research that was commissioned to assess that particular question.

Mr RICHARDSON — Finally, just coming back to the Monash health study, do you think it is problematic that the statutory authority that has had issues with chemicals on their training site had to commission their own study and that it was not something that was undertaken by the office of the chief health officer or the Department of Health? That it was a statutory authority being investigated that had to undertake that work rather than bodies like the office of the chief health officer, which has under its section 21 a function to ensure public health and wellbeing but did not enact that?

Prof. ACKLAND — For myself the most important thing was that two very robust studies done by two very, very robust academic and scientific institutes were completed, that the chief health officer was part of the decision-making process to have those studies done around the table.

Mr RICHARDSON — The Monash study? So they were involved — —

Prof. ACKLAND — There was a conversation that the former chief health officer, I understand, was part of. We had been engaged in the discussion about the need for these sorts of pieces of work. The most important thing is that there was not just one study but two studies done — if there was just one study done, you might say, 'Well, is that okay or not?', but the work from the Cancer Council Victoria is perhaps in a sense even more important.

Mr RICHARDSON — Why is that?

Prof. ACKLAND — Because the cancer council has direct connection to the data on cancer notifications.

Mr RICHARDSON — So they — —

Prof. ACKLAND — So there is a register of cancers in Victoria — —

Mr RICHARDSON — So just — —

Prof. ACKLAND — So the Monash study and the Cancer Council study complement each other.

Mr RICHARDSON — Just a point on that, though, the cancer council itself acknowledges the shortcomings in their own investigation post the Monash study. So how can that be more important or more credible than the Monash study when the cancer council itself acknowledges its shortcomings in its investigation?

Prof. ACKLAND — Thank you. What I meant to say was that the two studies, which were done independently of each other, complemented each other, and it was extremely important to get that complementary data. In terms of key messages from those studies, they both confirmed that workers in the higher risk groups had higher rates of cancers. Interestingly, overall mortality, as I recall, was in fact lower than the Australian population due to what is often known as the healthy worker effect. But, look, there is a lot of data from within those studies but they were complementary pieces of work. At no point did I feel disconnected from the fact that those pieces of work were being done. Did I think that those pieces of work were being influenced by the fact that they were commissioned by the CFA? No, I do not believe that was the case. I had no reason to believe that— that that — —.

Mr RICHARDSON — The point I make on that is that it took the CFA commissioning that work in consultation with stakeholders rather than a government authority being active and assessing that risk post-2011 when this came to the forefront of the community.

Prof. ACKLAND — I know where you are coming from, but I do not think that any change in arrangements for commissioning those pieces of work would have changed the outcome of those pieces of work, nor the timing of them.

Mr RICHARDSON — Okay. Thank you very much, Professor.

Ms WARD — Hi, Michael, thanks for coming with us, and I share with my colleagues in thanking you for the work that you have done for Victorians over many, many years, and I thank you for the robust way with which you have gone about this process. You sought advice from two toxicologists. Did you also consider consulting epidemiologists as well?

Prof. ACKLAND — I am not aware that we consulted independent epidemiologists in relation to this. We have considerable epidemiological expertise within our organisation. I have, I am afraid to say, decades of experience as an epidemiologist myself. Being able to look at the data that were produced, review them, I commented that I myself had influence in designing the sample arrangements for the lamb and ewe study. I am capable of forming a view as to the adequacy of that sort of study design, which was intended to provide benchmark information in relation to the safety of eating or consuming lamb meat. So my own epidemiological expertise was applied there, along with that of others around the table. We did not consider it necessary to employ independent epidemiologists. Had we had difficult questions of an epidemiological nature, we may have considered that.

But, look, you need to also know that institutions like Monash University and individuals such as Brian Priestly — I should probably more refer to Drew and Priestly both — do not work in vacuums. We draw on these people because they are extremely well-connected individuals, and while they have incredible expertise, they also draw on epidemiological advice in the work that they do. But if you wanted to unpack that, you would need to talk to them about that.

Ms WARD — Will do. Thank you. I am interested in the comments that you have made around PFOA. Are you aware that the EU is currently seeking to have PFOA added to the Stockholm Convention?

Prof. ACKLAND — I have heard that is the case, but I am not aware of the details of their decision.

Ms WARD — Okay. And are you also aware that PFOS is banned in Canada, that the EU is continuing to decrease its recommendations of safe levels, and extensive waterways in Sweden have been isolated, and attempts at remediation — in fact, expensive remediation — is occurring around the world to remove this contaminant? As you feel PFOS is safe to humans, do you believe these actions are potentially overreaction?

Prof. ACKLAND — Because of the international uncertainty about PFOS, it is hardly surprising that different jurisdictions will take different views on the matter.

Ms WARD — But it appears that their views are different to yours. There appears to be universality around the world in terms of responding to PFOS contamination, yet we seem to be in a position in Victoria where we do not seem to share the same concerns.

Prof. ACKLAND — I do not agree with your assertion that there is universality in response to this.

Ms WARD — Okay.

Prof. ACKLAND — I am aware that those responses have been taken, but I think that if there was a universal view on this, I would have been addressing my submission to your committee quite differently.

Ms WARD — When I say 'universal', I am talking about the wide number of countries who are acting to either ban this product or this chemical or to dramatically remediate areas where it has been polluted.

Prof. ACKLAND — I understand that, but I was not prepared to initiate a knee-jerk response to this matter, under the circumstances of this unfolding — —

Ms WARD — So you think that these other nations are responding in a knee-jerk fashion?

Prof. ACKLAND — I did not say that; they are your words. They have formed a view, and I am not privy to the context of all the views. I have indicated in my submission that the individual, the circumstances, the context of risk can influence decision-making on matters. In Victoria we have been confronted with a matter which has been, at face value, difficult to analyse and resolve, otherwise you would not be here, nor would I. I think that we have taken an appropriate stance on this. I am looking forward to participating in the national forum, which I have mentioned to you. It is an initiative which I have been part of the consideration to set up because I am a member of the Australian Health Protection Principal Committee that is chaired by Professor Chris Baggoley, who is the chief medical officer of Australia, and that committee has been updated on progress — more informally, I should say; it has never been a formal thing, but it has now become a formal thing — and I expect to be having a conversation with them about our experience, and there are other experiences in other jurisdictions. So I am aware, for example, in New South Wales the chief health officer of New South Wales is dealing with a potential for PFOS exposure at the Williamtown air base.

Ms WARD — That is right.

Prof. ACKLAND — And in Queensland there are issues as well.

Ms WARD — That is right, at Oakey air base.

Prof. ACKLAND — My counterparts in New South Wales and Queensland are as concerned as I am, and we are going to be pooling our knowledge. I think that will be a really important initiative; in fact it is an important initiative, which I think should give you confidence that we are not shrugging this off as an insignificant matter.

Ms WARD — Good. I am glad to hear it.

Prof. ACKLAND — But I have had to form a view over time, and that is an evolving view potentially. It evolves according to the evidence that we have got, and I want to re-emphasise that before we came to this inquiry we thought it was extremely important to review the literature, and we went to some trouble to make sure that this was available for ourselves and you prior to my appearing to, I think, validate the position that I have attempted to convey to you as best I can.

Ms WARD — We have heard recently that Senversa has identified PFOS levels at Fiskville that they classify as levels of concern and that some PFOA levels were also deemed to be above safe levels. Based on what you have said today, do you then feel that these categorisations are perhaps not — or do you disagree with calling them levels of concern or not safe?

Prof. ACKLAND — I am not able to comment on what Senversa has said about PFOA.

Ms WARD — Are you aware whether or not there is any ongoing pollution occurring at the properties neighbouring Fiskville?

Prof. ACKLAND — Ongoing pollution?

Ms WARD — Yes.

Prof. ACKLAND — I have indicated to you that PFOS is a substance that has a long half-life. It has a residual effect for many, many years.

Ms WARD — That is right. Yes.

Prof. ACKLAND — It does not just disappear instantly.

Ms WARD — No.

Prof. ACKLAND — So it is true, and we have acknowledged and we have discussed it with the relevant farming families that, yes, there is PFOS around, and we have done what is humanly possible to ascertain whether the levels of PFOS that are in their environment — for example, in their water, in their tank water, on the soil, in their stock, in the creek that is running by — is or is not presenting them with a health risk. We have done the analysis on that, we have done the work that we think is appropriate, and we have sat down and spoken to those community members about that. I believe that is what we are absolutely obligated to do.

Ms WARD — Thank you. I am interested that page 10 of your presentation says that:

> Effects are not expected until blood … levels are 20 times greater than levels typically seen in the general population.

Prof. ACKLAND — That is right.

Ms WARD — What do you mean by effects?

Prof. ACKLAND — Health effects, any health effects.

Ms WARD — What health effects would you see in blood levels 20 times greater?

Prof. ACKLAND — The description of health effects again comes out of the literature and is often based on animal studies, but there has been some work that has shown that there can be wide ranging metabolic effects that can mimic the metabolic effects that you can see from just ordinary lifestyle behaviours, the things that we talk about in relation to, for example, causation of obesity and diabetes — lifestyle things. There can be effects on the liver. There can be effects on the reproductive system. I am not going to try to enumerate the lot, but there is a bit of a string of things that in itself suggests that there are broad-ranging issues. We have emphasised in discussions with the affected families — affected in the sense of being exposed — that they need to have good comprehensive health assessments. They have been done, and we have helped them through that process. For matters of privacy, I am not going to reveal any of the details for a lot of the families.

Ms WARD — Of course not. So when you say 20 times greater, what is the base point at which the 20 times occurs — 20 times what level in your blood?

Prof. ACKLAND — That goes back to the background level that I showed you of 0.1 mg/L.

Ms WARD — So around 2?

Prof. ACKLAND — Yes.

Ms WARD — So 20 times greater than 2 would be a level at which you would be concerned.

Prof. ACKLAND — Twenty times greater than 0.1.

Ms WARD — Okay. Interesting. Thank you. You mentioned a number of products which contain PFOS and PFOA, such as Teflon and so on.

Prof. ACKLAND — I did not mention PFOA.

Ms WARD — Sorry, not Teflon — okay, PFOS. Are you aware that many of these products have either been discontinued or are being discontinued because there are fears they may be unsafe —

Prof. ACKLAND — Yes, I am.

Ms WARD — including the manufacture of PFOS by 3M and DuPont?

Prof. ACKLAND — I am aware that there have been a number of steps taken to change the composition of a range of products. I am not able to enumerate all those products. I know that, for example — I think it was in 2007 — PFOS was eliminated from the foams that are used as fire retardants.

Ms WARD — That is correct.

Prof. ACKLAND — I am aware that the Scotchgard product range, I think, has been adjusted to remove PFOS, and I think there are other products. I am not sure about our favourite garments containing Gore-Tex. I just bought some Gore-Tex pants the other day which I am very happy to wear.

Ms WARD — I think Gore-Tex has got PFOA, which I think is being phased out from Gore-Tex products. You have mentioned New South Wales Health and how they are managing Williamtown. They have sent out advice sheets on PFOS, which has not happened in Victoria, but you did do that with bushfire smoke in the Latrobe Valley. Do you see that you have got a role in minimising anxiety within the community, and do you intend to act on this? Or do you feel there are no health issues with PFOS that you can see? Do you have no role to play?

Prof. ACKLAND — I think there is a slightly different context. We have provided written advice on PFOS and verbal advice to the communities that have been affected in this particular context.

Ms WARD — The communities or the neighbouring properties?

Prof. ACKLAND — The neighbouring properties, which are in fact the principal — —

I think the geography is important to understand in terms of providing appropriate advice to people at risk. We have focused that advice on the families on properties immediately surrounding the Fiskville site.

Ms WARD — Thank you. Are you aware that at least one of Cardno Lane Piper's reports regarding pollution at Fiskville has been peer reviewed and to be found wanting? There was a dispute regarding the results, or the interpretation of the results.

Prof. ACKLAND — I am aware of the peer review process. It is hardly surprising that there would be, in a sound peer review, criticisms of aspects of methodology and uneven results, but I am not aware that that has changed the view that one has on the status of the results.

Ms WARD — Are you aware of the controversy regarding Roger Drew's mistake in estimating the case for the Gunns pulp mill, where they were underestimated by 45 times? The toxic dioxins going into Bass Strait was 45 times greater than what Drew had estimated.

Prof. ACKLAND — No, I am not.

Ms WARD — Are you also aware of issues around the ICI Botany Bay discharge, where Roger Drew said that it was safe but it is now closed to all fishing, swimming, boating et cetera?

Prof. ACKLAND — No, I am not aware of the specifics that you have referred to, but if the assertion is that Roger Drew is not competent to do the job because there have been variances in the results he has done in various other studies, I would not accept that assertion. The assumption you are making is that — —

Ms WARD — No, I am not making any assumption. I was just asking you a question.

Prof. ACKLAND — I think there may be an assumption that this is an absolutely exact science, and I think the complexity of the analyses that go on here is being underestimated in the assumption perhaps within this that everything is going to be black and white.

Ms WARD — No.

Prof. ACKLAND — There is a spectrum of sensitivity and specificity in relation to the results of any tests, and these tests that we are talking about, the environmental assessments, are extraordinarily complex. It hardly surprises me that with any particular test that is done by the gold standard person on this planet — and I have to say it is my opinion that Roger is right up there — there will always be people who form different views based on intricacies of methodological options that are available. I am not aware of the methodological, technical aspects of this, but I am not at all surprised that people are wishing to make criticisms of work that is done by people such as Roger Drew and others.

Ms WARD — It was not so much a criticism; it is more just relating back to you what has been reported about mistakes that have been made regarding his predictions.

Prof. ACKLAND — I cannot comment on this.

Ms WARD — And I think you underestimate how much we do recognise how complex this is, and that is why we are asking the questions that we are. Are you relying on information that has only been sourced by the CFA?

Prof. ACKLAND — Am I relying only on information sourced by the CFA? No. We have sought an independent — —

Ms WARD — Brian Priestly's report was one that you specifically asked for yourself.

Prof. ACKLAND — No. The Department of Health and Human Services commissioned this in September 2015.

Ms WARD — Okay. Great.

Prof. ACKLAND — and we sought this literature review before I appeared before you today, and it was delivered to us on 7 October.

Ms WARD — Thank you. You mentioned asbestos and that there is now agreement on its effects. We know that this has not always been the case. There has not always been agreement on what asbestos causes.

Prof. ACKLAND — Indeed.

Ms WARD — We have also received testimony that toxicologists have not proved that there is a link between asbestos contamination and mesothelioma, as it takes decades for the cancer to form — for example, it was suggested to us, 'Don't live that long' — because it is very challenging to make that direct connection. Do you think that this could be the case with PFOS and PFOA?

Prof. ACKLAND — I expect that over time there is potential for the position in relation to PFOS to change, but I cannot project that. I think we should take a precautionary approach in relation to PFOS. It has been my job to respond to the issue in relation to this incident, and I would look forward to contributing to a conversation about our future approaches. With the remaining short time I have on the Australian Health Protection Principal Committee, I am looking forward to contributing to the discussion about how we as a nation may respond to matters such as this. I do expect a gradual change over time.

Ms WARD — The measurement you described on those eating fish, can you expand that out a bit? Those 12 people, can you just talk me through it a bit more? I would just like to stretch that out a little bit more and make sure that I have got a thorough understanding.

Prof. ACKLAND — Eating fish?

Ms WARD — You were talking about the 12 people who were resident at Fiskville who had been eating the fish and had a measurement of 2. Can you just expand that out for me and tell me what that means and what the exact measurement was? I just want to get a clear understanding.

Prof. ACKLAND — The measurement of 2 milligrams per litre is what we consider to be the upper threshold, if you will, for safety in relation to levels of PFOS in your blood. It all sounds very exact, but in fact there are statistical confidence intervals around that, so the upper value for an adult could be as high as 4 with 95 degree confidence, as I understand it. But I think the technicalities of the confidence intervals should be discussed with Roger Drew and not myself. However, it is I think noteworthy that the most recent analysis of the NOEL suggests that upper thresholds for safety in children would be lower.

Ms WARD — Sorry, I missed that. The upper thresholds?

Prof. ACKLAND — The upper threshold levels for children, as in NOEL, are likely to be lower than for adults, which is hardly surprising, but the focus at this point has been on adults. In relation to the fish study, there were no blood PFOS levels in the 12 people who had been regularly consuming fish caught from Lake Fiskville, where it was known that the fish had very high levels of PFOS in their flesh.

Ms WARD — Sorry. So the people who ate the fish had no PFOS levels in their blood?

Prof. ACKLAND — No. If I could just finish.

Ms WARD — Sorry, I just wanted to make sure it was clear.

Prof. ACKLAND — Yes. I am just trying to clarify for you. The people that ate the fish that had high levels of PFOS in their flesh were tested. They were 12 individuals who volunteered to be tested, and my understanding is that they were all members of staff on the Fiskville site. So their test results came back all below that NOEL value of 2 milligrams per litre. Indeed most of them — and I think there were just one or two outliers — were below the background levels of PFOS that I have described of less than 0.1 milligram per litre. So to put that in perspective, every person in this room will have a background level of PFOS in their blood roughly similar to the levels that were found in the people that were eating those fish that we knew had high levels of PFOS in their flesh. So I felt that was an important piece of work — which has never been done before — to actually understand the implications of that known risk of ingesting PFOS to deliver a level in the blood that could be of consequence.

Ms WARD — I think they have done studies on this in Sweden, where there is extensive pollution in the waterways, and they have found increased levels of PFOS in people's blood serum. Is milligrams always the measurement that is used in this instance, or is it often also micrograms?

Prof. ACKLAND — Milligrams or micrograms, but the numbers in front change because they are different metrics. It is a bit arbitrary. I have seen milligrams used and I have seen micrograms used. For consistency I have been trying to use milligrams, but you will notice in relation to the tolerable daily intake that it is a much smaller value because it is the amount that we would ingest; that is expressed in micrograms per kilogram of body weight per day, which is the amount that you would eat or consume orally every day for the whole of your life. That was the piece of information that we used in assessing the quantum of PFOS in the flesh of the lambs that were slaughtered from the farming family of interest.

The CHAIR — I have just one quick question in terms of public health, and that is that we have had evidence — I think we just need to ask this — from people that actually attended the Fiskville Primary School who are concerned that the plume of contamination that blew over the primary school might have caused illnesses, because there have only really been studies on firefighters and staff at the Fiskville college, not at the school. Has there been any consideration by the department of health or the chief health officer in terms of public health and the responsibilities and powers to initiate some sort of investigation or study to assure those former students of the school?

Prof. ACKLAND — Matters to do with that school have not come to my attention.

The CHAIR — Okay; thank you. Thank you very much for attending today.

Witness withdrew.