

TRANSCRIPT

ENVIRONMENT, NATURAL RESOURCES AND REGIONAL DEVELOPMENT COMMITTEE

Inquiry into the CFA training college at Fiskville

Melbourne — 6 November 2015

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Dr Kerry Nugent, principal scientist, National Industrial Chemicals Notification and Assessment Scheme.

The CHAIR — I welcome everybody to this hearing into the Fiskville training college. I welcome Dr Kerry Nugent from NICNAS. I will just quickly go through some of the formalities. First of all, as outlined in the guide provided to you by the secretariat, all evidence given 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. The committee may ask you to come back at a later date if further evidence is required. All evidence today is being recorded, and witnesses — yourself — will be provided with a proof version of the transcript to check before it is published. I think the secretariat had mentioned, and it was acceptable to you, for you to provide a short presentation of around 15 minutes and then allow us to ask questions of you. If there is anything else you are not sure of, please ask. If you would not mind stating, just so that we have it on record, your name and your position within NICNAS. Thank you.

Dr NUGENT — My name is Kerry Nugent. I am one of several principal scientists in the NICNAS program and my responsibility is in the existing chemicals program. What is meant by existing chemicals hopefully will be covered in the presentation. We are not an extremely well known organisation, so I would like to lay out who we are and what we do.

Visual presentation.

Dr NUGENT — The chemical regulation sector in Australia is fairly complex, and it is a shared responsibility between commonwealth, state and territory governments. The particular regulatory stream that a chemical goes down is largely dependent on what it is used for, and for NICNAS purposes it is what is defined as an ‘industrial chemical’. The definition of industrial chemical is remarkably broad and it is defined by exclusion, so anything which is not a pesticide, a medicine, a food additive — certain things like that. There is a very wide range, from things which you think of as being purely industrial through to things in your domestic cleaning products and all the way through to cosmetic products, which are defined as industrial in Australia. I would also mention that at least at the commonwealth level there is a separation between risk assessment functions and risk management functions.

NICNAS is a scheme which administers a piece of legislation — the Industrial Chemicals (Notification and Assessment) Act of 1989 — which lays out duties of the director of NICNAS and also allows the director to obtain staff from the Department of Health and the Department of the Environment. The scheme itself fits under the Department of Health. One of the most important things that defines what we do is the object of the act, and this is the one which is relevant for our assessment function. This is what is actually in the legislation. Basically it says that we assess the chemicals and we provide information, including recommendations, to the bodies with responsibility for the regulation of industrial chemicals. So we are an assessor, not really a regulator of the chemicals. That comes down to what our functions are, which are assessing new industrial chemicals for human health and environmental impacts. This is where this next line about the Australian Inventory of Chemical Substances comes in. If something is one of around 40 000 chemicals on the inventory, it is called an existing chemical. Anything which is not on that inventory that someone wants to bring into the country is a new industrial chemical.

We also review existing industrial chemicals of concern as priority existing chemicals. However, there are reforms going on at present, and that function is likely to change significantly. We also do certain other assessments as required. At the moment we are working on a program that I will mention a bit later called IMAP, which is much more efficient at looking at chemicals.

We provide information on the impacts of the chemicals and make recommendations for their safe use. These recommendations might be to risk managers such as the people responsible for the poisons schedule, Safe Work Australia or some of the recommendations can be directly to industry to say, ‘It’s advisable that you do this relating to your chemical’.

We also register the introducers of industrial chemicals. The registration of introducers is very important when it comes to funding. We are, for all practical purposes apart from a small amount for reform, 100 per cent cost recovered. We have two funding streams. One is that the new chemical assessments are done on a fee-for-service basis. The other is that there is a levy placed on all introducers of industrial chemicals depending on how much they introduce, and that levy funds the majority of our work, including the existing chemicals assessment. So there is no budget allocation.

One of the important things from that is there is a cost-recovery impact statement that has to be put out about this. Together with the objectives of the act, the cost-recovery impact statement lays out largely what we do, because it says what we are allowed to recover from industry and for which purposes.

There are a number of corporate programs that are laid out here, but I do not want to go into any depth on them; they are not highly relevant to this work.

Then there are the assessment programs. These are done jointly between human health assessors, who look at worker health and also public health, and the environment department, who look at environment impacts. As I said earlier, we have the new chemicals program, which looks at chemicals newly introduced to Australia.

But the interesting one for these purposes is the existing chemicals program. That is because the chemicals of most interest in this area are actually very old chemicals. I saw recently that I think perfluorooctanoic acid was first introduced by industry in the 1940s. The Australian Inventory of Chemical Substances contained all the chemicals in Australia prior to 1989. They were grandparented onto the Australian inventory without assessment at that time.

We also have the targeted assessment program, which basically does assessments that are outside the normal objectives of the act and the cost-recovery impact statement and which are largely funded from elsewhere, so there are times where we get commissioned to do other work.

Back to this question: what is an industrial chemical? I have gone through that to a certain degree, but there are the three other complementary assessment agencies — APVMA, Food Standards Australia New Zealand and the Therapeutic Goods Administration — and they all have their specific roles in regulating chemicals in Australia. The other thing which we need to understand is that an article is not a chemical for our purposes. They have become, say, a place where there are some complicated boundaries.

I have gone a little bit into the role of the Australian Inventory of Chemical Substances. Out of this list about 38 000 were grandparented, and the remaining 2000 have gone on after being assessed as being new chemicals. I have also covered this about the new chemicals.

I will go into the existing chemicals program. We have an older program called the priority existing chemical program, where probably a bit over 40 reports have been produced in the time NICNAS has existed since 1990. They are very thorough, and they contain detailed information and also recommendations on the use of the chemicals, but they have to be declared by the minister. We have always been doing other assessments while the priority existing chemical assessments were going on, and we are now mostly focused on the inventory multitiered assessment and prioritisation framework, which we refer to as IMAP. As I said, we have been doing other assessment work in tandem with the PECs, and this is where the perfluorinated chemicals alerts came in over the time from 2002 onwards.

I will now just say a little bit about the IMAP because it is my favourite part of our work. Here instead of doing about 40 assessments in 20 years, we have so far done over 2700 chemicals in 3 years and are managing to get significant advancements in the management of chemicals arising from that. One thing of importance there is that I saw a newspaper article a few weeks ago where one of the witnesses here mentioned that some of the chemicals in foams, apart from PFOA and PFOS, were chemicals that break down to form PFOA and PFOS. All of the chemicals of that type on the Australian inventory have gone through the IMAP program now, and the recommendations are such that we are trying to achieve having those limited in use in Australia in similar ways to PFOS and PFOA, so there has been some significant work in that area coming from this assessment. We also have assessments on PFOS and PFOA, but they are largely to do with how they are introduced and what regulations exist on them at present, and they are to lay out sufficient information on the toxicology of them to support the recommendations for the precursor chemicals. I might leave the introduction at that point.

The CHAIR — Thank you, Dr Nugent. We are looking at various chemicals and contaminants that were burnt in fire training but also of course the PFOS and PFOA in firefighting foams. You were talking about the alert fact sheets, and I just want to draw your attention to the alert fact sheet on PFOS and PFOA. When was that last reviewed or updated? Are you aware?

Dr NUGENT — I believe the last of the alerts would have been around 2007 or 2008. I cannot give a precise detail. There were five, I think, starting in 2002 where the issues associated with PFOS first became

evident. Since that time we have put out an additional fact sheet on the perfluorinated chemicals, but we have also since then put out the IMAP assessments associated with these chemicals.

The CHAIR — We have the fact sheets but not the IMAP assessment. Within the IMAP assessment, I think it talks about being a multitiered assessment, so where would these chemicals sit in terms of their category within the IMAP system?

Dr NUGENT — For our particular purposes, where our focus is on the introduction of chemicals into Australia, these actually went to the second tier of assessment. There are basically three tiers. Because there is evidence to say these chemicals are not being introduced into Australia now, there are not reasons for assessments for NICNAS purposes for these beyond this level. That does not mean there is no desirability for further assessment of these chemicals; it is just that within the scope of our scheme it is not something that comes under our cost-recovery guidelines. It is something which, if it were commissioned, we would be able to proceed to do.

The CHAIR — As an arm of government but funded by the industry, you provide advice to the industry in terms of things such as risks to human health and the environment. Is that correct?

Dr NUGENT — Yes, that is true.

The CHAIR — And so in terms of the PFOS and the PFOA, you were saying that there is a state and federal government responsibility around the issue of industrial chemicals. Have there been any approaches made by the CFA or the Victorian government in terms of discussing where NICNAS assesses these chemicals?

Dr NUGENT — I am not aware of any approaches in the Victorian context.

The CHAIR — Is there much working together between the states and nationally? What is the sort of cooperation?

Dr NUGENT — Yes, the primary area, and this is getting a bit outside my field of expertise.

The CHAIR — Sorry, yes.

Dr NUGENT — When it comes to environmental health, there is an arrangement called enHealth, and that involves the health departments of all the states and territories together with the commonwealth, and this is the place where the coordination on these types of issues occurs.

The CHAIR — Okay, thank you.

Mr McCURDY — Dr Nugent, in 2009 you presented to an international conference about PFOS. Can you give us a snapshot of the way you felt about PFOS then and whether anything has changed since then?

Dr NUGENT — I think the perspective that we have always come from — and this is what this international conference relates to as well — is trying to eliminate PFOS and PFOA, so the ways and means of stopping it being used. We are strongly of the view that we would like to have these chemicals no longer being used or no longer being used subject to the small number of essential uses that come under the Stockholm convention.

Mr RAMSAY — Thank you. I am just wondering at what stage did you advise the Minister for Health in relation to the dangers associated with the use of PFOS by our firefighters in Victoria? Was there a time frame of where you decided that at that point that chemical was of a dangerous nature?

Dr NUGENT — We put out the alerts, which in general were to all readers, to say that these chemicals were a danger, particularly to the environment from uses, and one of the uses which was highlighted within those alerts was the use in firefighting. That led to that specific recommendation that any stocks that were held not be used in practice firefighting.

Mr RAMSAY — So do you have a direct relationship with the minister? Did you advise the minister at a point in time about whether specifically those chemicals should be withdrawn or not used by firefighters?

Dr NUGENT — I do not think that was a ministerial one; however, I was not in the existing chemicals area at the time when those decisions were first made.

Mr TILLEY — Firstly, just how long have you been with the organisation?

Dr NUGENT — I commenced in NICNAS in 1998.

Mr TILLEY — Following your contribution a short while ago, are you familiar at all with the CFA training centre at Fiskville at all?

Dr NUGENT — I have read a lot of news about it. I drove through that area several times in the time I was living in Melbourne, so I know of it, particularly as being one of the big issues relating to the types of chemicals that we deal with. We always keep monitoring the news to do with any of the types of chemicals that we deal with.

Mr TILLEY — So, from everything you have read, and being interested from the sidelines, which is I suggest what you are trying to say — I am not trying to put words into your mouth for a moment — are there any immediate concerns that you personally have as a scientist in relation to those stories that you have read?

Dr NUGENT — There are chemicals that get mentioned that I think are of concern that they should have been used in that way. I am not just thinking about the perfluorinateds, I believe I have seen mentions of polychlorinated biphenyls at some time. To me that is possibly a bigger single concern.

Mr TILLEY — So could you extend a little bit in relation to that using some of the plain English language in relation to some of those types of chemicals?

Dr NUGENT — Okay. The chemicals we are most concerned about are what are called POPs — persistent organic pollutants — and this is because a lot of the chemicals that may have been used at that site may have some acute toxicity, but that applies when they are being used and then over time they disappear from the environment. When it comes to the POPs chemicals, they do not disappear from the environment. They have no ready mechanism for degradation, and so they move through the entire ecosystem of the area. There is another acronym which is used relating to POPs chemicals, and this is PBT. PBT is persistent, bioaccumulative and toxic. Persistent means that they do not break down, so they stay there. Bioaccumulative is more interesting; that means that they get into the organism but do not readily leave, and also they tend to magnify up food chains, because the load which is in a prey species ends up in the predator species and stays there as well. Of course the other concern is when they are also toxic. This is the topic covered by the Stockholm convention of PBT chemicals.

Mr TILLEY — When we are discussing this, do you have, to assist the committee, any common name type chemicals or brands of chemicals?

Dr NUGENT — The polychlorinated biphenyls are normally called PCBs. That is a very common acronym.

Mr TILLEY — That leads me on to remediation. If you are aware of these types of chemicals being used at the CFA training centre at Fiskville, what sorts of processes would you cite, as an expert in your field, for remediating soil and water?

Dr NUGENT — I am a member of the organisation called ACTRA, which is the Australasian College of Toxicology and Risk Assessment. That contains a fairly broad range of people. There are people there whose specialty is contaminated sites, and they are much more able to answer remediation questions. We are to a fair degree at the other end. We are the people who look at things on the limited information at the front gate. There is quite a spread of expertise in this area. However, the remediation issues get to be very complex when things are spread to that extent. I understand you also had Roger Klein appear here at one stage. I have seen him give a presentation on work at Jersey Airport, and the level of complexity there was pretty enormous.

Mr TILLEY — In your expert opinion can sites such as Fiskville be remediated?

Dr NUGENT — I would say that the majority of the area probably would be able to be dealt with. But it is outside my area of expertise, and I must say I have not seen really thorough information on the extent of

contamination. I have seen that some of the ponds and lakes there have some measurements. Without having all of that information, I cannot easily put it into the context of the overseas experience.

Mr TILLEY — I am not asking you to go too far. If it is possible that Fiskville can be remediated, could that site be used in the future?

Dr NUGENT — Somewhere in the future it will be able to be used. But the amount of money put into remediation, and the amount of time into the future, I am not in a position to say.

Mr TILLEY — Which leads me to, once again, that during your contribution you were talking about current foams that are being used in firefighting. Correct me if I am wrong, please. Did you say that with PFOS and PFOA, out of the current, existing products that are being used for firefighting, that your concern was that the combination of other existing chemicals that we are using can create PFOS?

Dr NUGENT — That is a concern. I am not saying that it is likely that the foams in use now contain this. I know the main companies working in the perfluorinated chemicals space, and we are in very regular consultation with these companies. They have moved completely out of any chemistry related to PFOS and PFOA. They are using shorter chain analogues. They have the persistence; they do not have the bioaccumulation potential, and they have lower toxicity, while still having efficacy against fires. The majority of fluorinated foams used now will not break down to PFOS or PFOA. But there is nothing which controls the use of these, and I know that some of the chemicals related to PFOS and PFOA are still manufactured in other countries by companies other than the big, reputable ones.

Mr TILLEY — Are they coming onto Australia's shores, by chance?

Dr NUGENT — We are likely to put out a request for information, but this depends on the powers which sit under our legislation, which currently do not permit that.

Mr TILLEY — Not as yet?

Dr NUGENT — Not as yet.

Mr TILLEY — Stepping away from firefighting applications, I noticed in your submission too you were talking about its other application with the road surface suppression, mining applications. I just want to try and get some balance here. Where we have got use of PFOS and PFOA in its application, say, apart from firefighting activities, for sealants and the metal industry, across the board in this nation where is the balance in relation to firefighting activities and other applications?

Dr NUGENT — I think the main application of related chemicals — these are the ones which when they decompose they form PFOS or PFOA — is below your feet. It is actually the stain release on carpets. That is polymeric substances, which do degrade. They make sure the stains do not stick, but slowly, over time, small amounts of PFOS or PFOA get out. This is the reason fundamentally why effectively everyone in Australia has small amounts of these chemicals, and everyone in the Western world. Australia is not among the highest in the Western world, in my understanding.

Mr TILLEY — Just finishing up, in contrast to other chemicals that have been used for a whole range of things, there has been some significant evidence put to the committee about PFOS and PFOA — the big bogeyman that it is. What about other chemicals such as your benzenes, your toluenes and so on? In comparison to the effect on humans, is there any sort of comparison you could provide to us?

Dr NUGENT — Some of these are very bad in an acute sense, so if you are looking at the people actually using the chemicals, benzene is actually one of the most problematic ones. It is considered a known human carcinogen, and there is plenty of epidemiological evidence of where benzene has — —

Mr TILLEY — Break down on, say, benzene specifically?

Dr NUGENT — Benzene basically comes from being used as benzene. There is not really anything that breaks down to benzene. There are a lot of things which could be considered derivatives of benzene, but they never actually re-form benzene when they break down. But when you look at the later history of the site, very little of the benzene that was there will still be there. It is volatile; it has bacterial breakdown. It is more of an

issue at the time it is fresh. When you are looking at the site now in this retrospect, the primary issues are PFOS, PFOA, any PCBs that happened to be used there. Another thing that does occur anywhere where fires are present is there are small amounts of dioxins produced in the fires. They are not actually used there, but they are produced by burning PCBs and other things containing chlorine. Those are the footprint chemicals that you would see in a legacy site as being the biggest concerns.

Mr TILLEY — Thank you.

Ms WARD — Thank you, Kerry, and thank you very much for spending your time with us today. We have got a pretty good knowledge, I think, around the issues of PFOS. Do you agree with the statements that have been made by your own organisation, the OECD and the Stockholm convention that PFOS is a chemical toxic to mammals and should be avoided?

Dr NUGENT — That is correct.

Ms WARD — So would you agree with Brian Priestly from Monash, who has appeared before us as well, who has made the statement that research around the ongoing effects of PFOS contamination in humans is quite confusing?

Dr NUGENT — It is very rare I would disagree with Brian Priestly; he is extremely eminent. My reading of the evidence in animals and in humans for the toxicity bears that out — that it is confusing. It is very difficult to draw firm conclusions apart from that you really do want to make sure that it is as far away as possible.

Ms WARD — So how do we know that it is toxic?

Dr NUGENT — There is evidence once you get to higher doses of significant liver toxicity, and that cannot be ruled out. But there are also many statements of links to types of toxicity, and these are to the extent that the International Agency for Research on Cancer has classified PFOA as being, I think, a probable human carcinogen. They see that the evidence in both animals and humans is sufficient to come to that conclusion.

We also have the conclusions of the C8 Science Panel, which was set up in West Virginia. There was a contamination incident on the border of West Virginia and Ohio where PFOA was the main contaminant. The levels in the people in that area were more than 10 times typical US levels, and there were workers there who were even more contaminated. The epidemiology from that site, where they used thousands of study participants, was sufficiently convincing that they could give some links that they thought were borne out by the epidemiology. Epidemiology of industrial chemicals is extremely difficult, because normally the increased incidence is slight and it is very hard to draw conclusions to that extent, but this eminent panel in the USA was sufficiently convinced of some links, including to several cancers, that they provided that, I believe, to the lawyers there to say that these are considered to be diseases which are associated with the exposure.

Ms WARD — Just going back to what you were saying, for those people in Virginia who had levels in their blood 10 times the national average, that was of deep concern to them, their health practitioners and the government?

Dr NUGENT — Yes, it was of sufficient concern. In the USA largely it was going through the courts. I believe the state was suing DuPont for this contamination, and the individuals and so on. Some of the levels there were probably more like 30 times what you would commonly see. It had got into groundwater and people were using groundwater for drinking.

Ms WARD — In 2003 NICNAS recommended that PFOS-based firefighting foam not be used for training purposes. What was the reasoning behind that recommendation?

Dr NUGENT — The reasoning behind the recommendation — while I was not in existing chemicals at that time, I was working in new chemicals, and I am quite aware of that one in particular — is because we were monitoring whether firefighting foams containing PFOS and PFOA were coming into the country. We found fairly quickly after our release that people stopped using them, so that was good, but because the tanks basically got topped up and that, there was no way of being absolutely sure that people did not have stocks still in their firefighting systems. The people doing firefighting actually like the PFOS/PFOA-type ones, because they are a bit more efficacious than the newer ones. It was therefore very difficult, particularly given we have no control

powers over what people do with their chemicals other than persuasion, to tell them to throw it all out and get new stuff.

What we did think is that to use this in practice firefighting was just throwing something very unpleasant into the environment for perfectly avoidable reasons. Therefore if they still had those stocks, they were not the things to be used in practice drills. When you look at airports around Australia, I believe that pretty well all the firefighting foam — that is, very close to all the firefighting foam that has ever been used — would be for practice firefighting there. There is not a long history of it being used for real concerns.

Ms WARD — Throughout 2003 and 2008 you sent alerts to the CFA and the MFB regarding the foam. Now you have indicated that there was a bit of reluctance because it was a good product in terms of its efficacy. Were there conversations with the MFB and the CFA around the concerns that NICNAS had, or was it only through the alert form?

Dr NUGENT — I was not party to those conversations prior to some later ones, where our main contacts were through Roger Klein and his contacts within Australia, the FPAA, to — —

Ms WARD — Do you know what time that was, what year?

Dr NUGENT — I was first introduced to him around 2011, and prior to that I am not on top of the history of that. There were other people involved.

Ms WARD — I noticed in your report that there is a mention of a decrease in stock between 2005 and 2007. It seems quite a big jump from nine to seven — I cannot remember the measurements, sorry. Do you know what brought that about? Because the levels are quite consistent, and then there is this change over 2005 and 2007.

Dr NUGENT — This change is interesting. It has actually been reflected in people's blood — that is, in Australia. It has been reflected in different countries in people's blood. It is a very concerted thing that we were just a cog in, and to a certain extent the companies such as DuPont, 3M, Daikin — the ones who were the producers of these chemicals — were a major driver in the removal of these chemicals, because they moved to new technology. They wanted to market this new technology, and so they were quite happy to make sure everyone was aware of the issues with the old technology.

Ms WARD — If you have got a big stockpile of PFOS foam, how do you get rid of it? How do you dispose of it?

Dr NUGENT — As far as I am aware, there is really only one disposal mechanism, which is high-temperature incineration, and that is not available in Australia.

The CHAIR — I will just ask one other question. There must be a bit of a balancing thing, where you are assessing chemicals that companies want to use and are necessary, and of course there is also new evidence and new research that is continuing on. How do you balance at what point you determine that a particular chemical is high on the alert list, or in fact have there been cases where the toxicity of a chemical has been determined to be at one level and then that has actually been changed to either a higher or a lower level?

Dr NUGENT — That definitely occurs. Just anecdotally, when I was working as an assessor in the new chemicals area probably in 1999, when I had been there for a year, one of the chemicals which I had to assess was a polymer which was based on chemicals that break down to form PFOA and longer chain equivalents which are often worse. We knew nothing about it. It was just a polymer about which no-one had any suspicion of toxicity. In fact everyone was extremely surprised in 2002 when 3M abruptly withdrew PFOS, because the modes of toxicity of PFOS were ones that no-one was aware existed up until that point. Just using the chemicals in front of this inquiry gives a very good example of that. It was a total surprise. The chemicals are not overtly toxic. Even the fact that they are bioaccumulative was not predicted. They were not expected to be bioaccumulative chemicals, so you do get surprised by things that come up.

Mr TILLEY — Just a quick one on your expert view on the impacts of human exposure particularly in firefighting. In terms of use of foams historically and in a current training environment with PFOS and PFOA, regarding human exposure — and firefighting, as you are aware, is inherently dangerous — what about those other effects of structural fires, plant fires, the types of building materials and other chemicals that might be on

site, as far as an exposure and effect on humans goes? What I am saying is: what is the risk base in a training environment using straight foams compared to operational duties where you are confronted with a whole range of other chemicals and structural issues?

Dr NUGENT — I believe I am correct that the International Agency for Research on Cancer considered that firefighting is also carcinogenic. I know that has been discussed, and it is a very bad soup of things that people get exposed to there. There are what are called the polycyclic aromatic hydrocarbons — PAHs. That is what you get on the outside of burnt meat on the barbecue, and they are considered to be known carcinogens. There are things like formaldehyde present in the smoke, and there is benzene. You get nitroso compounds sometimes.

It is a soup of some of the most unpleasant chemicals that are known to man, and so not putting the fire out is not good for the people doing that work. When you are looking at the occupational health, a polymeric form of some foam like this will not be readily absorbed by the person, although it may be an environmental issue at the time and will preclude some of the exposures to other chemicals that would occur, so there is a bit of a balance there. If it were not for the negative consequences in the future, down the track, for some of these chemicals, they would be considered to be a miracle.

Mr TILLEY — On that, just finishing off in relation to your organisation: significantly, plants are closing up particularly around Victoria. They have been sold overseas, so some of those operations are in places like India, where their regulation when it comes to chemicals and other things is different. So in relation to those chemicals, coming back to our nation — is there any certainty where your organisation can ensure that we do our very best to protect our whole range of employees throughout the state, whether they be firefighters or working in whatever context? What concerns me is when you are going back to talking about a levy and not having a budget, with your cost recovery, is NICNAS sure that in the future, with these chemicals and precursor chemicals coming from offshore into our nation's boundaries, we can protect our community?

Dr NUGENT — I believe that down the track the precursor chemicals will have sufficient control, even from those sources. We had a recent incident over the past couple of years that you may have seen about recalls of pairs of jeans with azo dyes in them. That came from some advice that we provided to ACCC, and it was a similar issue, that the offshore manufacturer was not being sufficiently careful, but because it got highlighted, the controls started to be put in place at the border to make sure that we were not affected by it.

The CHAIR — Okay. Thank you very much for your time and for coming to talk to us today.

Witness withdrew.