

# **STANDING COMMITTEE ON PUBLIC ADMINISTRATION**

## **INQUIRY INTO THE MANAGEMENT OF ASBESTOS CONTAINING MATERIALS IN WESTERN AUSTRALIAN STATE SCHOOLS**

**TRANSCRIPT OF EVIDENCE TAKEN  
AT PERTH  
WEDNESDAY, 28 NOVEMBER 2007**

### **SESSION TWO**

#### **Members**

**Hon Barry House (Chairman)  
Hon Ed Dermer (Deputy Chairman)  
Hon Matthew Benson-Lidholm  
Hon Vincent Catania  
Hon Nigel Hallett**

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**Hearing commenced at 12.03 pm**

**DE KLERK, DR NICHOLAS**  
**Head of Biostatistics and Adjunct Professor,**  
**Telethon Institute for Child Health Research,**  
**100 Roberts Road,**  
**Subiaco 6008, examined:**

**The CHAIRMAN:** Dr De Klerk, there are some formalities at the start that we must observe. To explain the setting, my colleague Hon Vince Catania has had to leave the meeting. Hansard are seated to my left, the committee staff are seated to the right, and the media and the public are at the back of the room. On behalf of the committee, I would like to welcome you to the meeting. To begin with, please state your full name and the capacity in which you appear before the committee.

**Dr De Klerk:** My name is Nicholas De Klerk. I work at the Telethon Institute for Child Health Research. I am an epidemiologist of fairly long standing, and I have been working in asbestos-related diseases since, I think, about 1983.

**The CHAIRMAN:** You will have signed a document entitled "Information for Witnesses". Have you read and understood that document?

**Dr De Klerk:** Yes.

**The CHAIRMAN:** These proceedings are being recorded by Hansard. A transcript of your evidence will be provided to you. To assist the committee and Hansard, please quote the full title of any document you refer to during the course of this hearing for the record. Please be aware of the microphones and speak into them. I remind you that your transcript will become a matter for the public record. If for some reason you wish to make a confidential statement during today's proceedings, you should request that the evidence be taken in closed session. If the committee grants your request, any public and media in attendance will be excluded from the hearing. Please note that until such time as the transcript of your evidence is finalised, it should not be made public. I advise you that premature publication or disclosure of your evidence may constitute a contempt of Parliament and may mean that the material published or disclosed is not subject to parliamentary privilege.

Welcome again, Dr De Klerk. Would you like to make an opening statement to the committee?

**Dr De Klerk:** No. I am just prepared to answer questions. I have a copy of the questions.

**The CHAIRMAN:** Doctor, we did circulate some questions towards the end of last week. Perhaps we can work through those questions and you can provide some information for us.

**Dr De Klerk:** Yes.

**The CHAIRMAN:** Can you please explain how asbestos causes disease and what diseases are caused by particular types of asbestos?

**Dr De Klerk:** No-one really completely knows how asbestos causes disease. It results from inhalation of asbestos fibres of certain lengths; you must be able to breathe the fibres in. The diseases caused include mesothelioma, which can either be plural mesothelioma, a cancer of the lining of the lung, or peritoneal mesothelioma, a cancer of the lining of the stomach. Other forms of mesothelioma can result; however, they are much rarer. In addition, it can cause asbestosis, which is fibrosis of the lung. Asbestosis tends to be caused by a heavier exposure to fibres than

mesothelioma. Lung cancer is also caused, again, by inhalation. As is the case with most carcinogens, I do not think there is any consensus as to how much you need to breathe in to actually cause disease. However, mesothelioma is the disease people are most concerned about, because the amount of exposure required to cause disease is a lot less than for the other diseases, and the resultant disease is a lot worse; therefore, that is the one that is of most concern to the community at large. Again, I would have to say that I do not think people really know how asbestos causes this, except that some process originates from the fibres in the lung, and possibly some type of irritation. One of the theories is that when the body tries to remove the fibres, if they are longer than a certain size, the removal processes break down to a certain extent, and other free radicals etc are released into the body, which in the long term can actually cause cancer in the lining of the organs.

**The CHAIRMAN:** For the committee's benefit, you have mentioned that you have been with the Telethon Institute for Child Health Research for some time, and that you are the adjunct professor and head of biostatistics.

**Dr De Klerk:** Yes.

**The CHAIRMAN:** Could you give the committee some idea of what your work entails? Is it academic research, or in a practical field?

[12.10 pm]

**Dr De Klerk:** My main experience with asbestos-related diseases was before I went to the Telethon institute, from when I worked at what was then the Department of Public Health at the University of Western Australia. I worked there as an epidemiologist, and we carried out all the studies of the Wittenoom-related diseases, so we did a cohort study of people who lived and worked at Wittenoom. As I said, I am still involved in that as an adjunct professor at the School of Population Health. Epidemiology is the study of disease in populations, so I am not actually treating patients or doing anything along those lines. I am gathering data and looking at trends, causes and risks, and assessing how risky things are and that kind of thing. My expertise is in that side of public health. At the Telethon institute I do not actually have anything to do with asbestos-related disease. It is just that, as I said, I still have an adjunct position at UWA, and I have been on a few international committees to advise on the health risks of asbestos-related disease.

**Hon ED DERMER:** Earlier you commented on the inhalation of asbestos and the causes of mesothelioma and various other diseases. Can you reflect on the different toxicity of different types of asbestos?

**Dr De Klerk:** Yes. There have been quite a few recent reviews comparing them. The most recent review that people quote was done by the Health and Safety Executive in England, which found that crocidolite was the worst.

**Hon ED DERMER:** Is that blue asbestos?

**Dr De Klerk:** Yes. Then there is amosite, which is brown asbestos and comes only from South Africa. That was used a fair amount in asbestos-cement products. There is also white asbestos, which is called chrysotile. I was a member of a committee that looked into asbestos in schools in 1990. I was prompted to reread the report when I was invited to attend this committee. It is depressing and surprising how little has changed in terms of what people know about how asbestos causes disease. Also, I know that not all the recommendations of that committee have been carried out, but the committee's recommendations for schools probably still stand today, although that was now 17 years ago. The relative carcinogenicity of the types of asbestos fibres has probably spread out a little bit. There has been a big move by the Canadian government in particular, because it exports chrysotile, so its aim is to show that chrysotile is a lot less harmful than people think. The Canadians could well be right, except that it is hard to get chrysotile in its pure form. That was certainly the issue when we had to give evidence to the World Trade Organization when Canada was trying to get the European Union to buy its chrysotile. The main issue that that hinged on was

that although a lot of the evidence showed that chrysotile was so much less harmful than crocidolite, the fact is that it is generally contaminated with tremolite, which is a non-commercial form of asbestos but has similar health risks - somewhere between amosite and chrysotile. Therefore, we could not take those risks, so we went with the alternatives. The issues for the purposes of this committee are different because we are not talking about buying asbestos.

**The CHAIRMAN:** You mentioned your involvement with the 1990 education department's survey.

**Dr De Klerk:** Well, it was a WA advisory committee on hazardous -

**The CHAIRMAN:** Can you indicate exactly what your role in that was?

**Dr De Klerk:** I produced a lot of the appendices. The report was done by a committee, but a lot of the committee members did not turn up to a lot of the meetings. Bruce Armstrong was the chair of the committee, and I worked fairly closely with him on that.

**The CHAIRMAN:** Is that document that you have in front of you the asbestos cement products report by the Western Australian Advisory Committee on Hazardous Substances, dated August 1990?

**Dr De Klerk:** Yes.

**The CHAIRMAN:** Are you happy to table that report for the committee.

**Dr De Klerk:** Yes, but it is my only copy.

**The CHAIRMAN:** That is fine. We have a copy that has just materialised.

**Hon ED DERMER:** We are just making sure that it is the same document.

**The CHAIRMAN:** Thank you. We want to run through a couple of questions with you just to get some consistency regarding the evidence that we have collected from various people. The committee has heard differing views on the health risk of asbestos fibres. One view expressed is that one fibre of asbestos kills. Another view, which was expressed by the Department of Housing and Works, is that "scientific and medical communities disagree with this theory. Victims of asbestos diseases usually have had very high exposure levels to asbestos fibres over a long time". Do you have a comment on that?

**Dr De Klerk:** As with most carcinogens, the probability of getting a disease depends on how much of a dose of exposure a person gets. If a person is heavily exposed by working in Wittenoom, for example, the probability of getting mesothelioma is high. As a person's exposure to asbestos is less and less, the probability of getting a disease is less. Theoretically, one fibre could kill a person, but the probability of being killed by one fibre is vanishingly small. It is about the same odds as winning the lottery 10 weeks in a row or something like that.

**The CHAIRMAN:** Just one week would be fine!

**Dr De Klerk:** Although it is true that one fibre could kill a person, the probability is very low. As general rule, cancer tends to be a chance event. You have to get a lot of cells doing the same thing at the same time. That is why a lot of people do not get a disease and some people do. For mesothelioma, the probability depends on the time from when the person was first exposed, how much the person was first exposed to, and for how long. The higher all those probabilities are, the bigger the person's chance of getting the disease.

**Hon ED DERMER:** On the question of for how long a person must be exposed, within what people would see as reasonable, how short a period of intensive exposure could be a reasonable cause of risk?

**Dr De Klerk:** It does depend on the intensity, too. Some people have contracted mesothelioma from being at Wittenoom for two or three days where the exposure was quite high. Then again, an

awful lot of people have been there, so the actual probability of contracting mesothelioma is still quite low, but cases of that have occurred.

**Hon ED DERMER:** So in that instance you could point to a case and say that the likely cause of the disease related to an exposure to asbestos over a period of two or three days?

**Dr De Klerk:** Yes.

**Hon ED DERMER:** Is that about as short as the time frame would get?

**Dr De Klerk:** Again, it would depend on how much asbestos a person was exposed to. If a person put his head in a hessian bag of asbestos and breathed heavily for a few hours, the person's risk of contracting mesothelioma would be appreciably increased.

**Hon ED DERMER:** When I take my dog for a walk and I walk past a cracked asbestos fence, my instinct is to hold my breath. Is that being absurd?

**Dr De Klerk:** It is not being absurd, but the amount of asbestos that is coming off that fence will be very small. The report shows that the fibres must be airborne and get into a person's lungs, and the fibres must be a certain size. The report counted the number of asbestos fibres around all the schools. I think it found two fibres all together in the whole of the sampling, although there was quite observable asbestos deterioration, and the committee did find asbestos fibres in the water run-off, and in downpipes and the gutters as well.

**Hon ED DERMER:** My youngest son is at school today sitting in a classroom. If during the time he was sitting in the classroom a person was doing contract work in the ceiling and drilled a number of holes through asbestos-containing material, which naturally would increase the frequency of the fibres in the air in the confined space of the classroom, how grievously worried should I be about that instance?

[12.20 pm]

**Dr De Klerk:** You should be worried on several counts. Firstly, they should not be doing it in the first place. If there is an asbestos management plan, it should show where the asbestos is that they are not supposed to drill and all those things that people should not be doing. However, the actual level of exposure for half a day would be so many fibres per millilitre. The increased risk would be along the same lines as the increase that is shown in the tables at the back of this document about what the lifetime risks would be. It might increase the lifetime risk of mesothelioma by 10 in a million or something like that, but it would not be anything to worry about.

**The CHAIRMAN:** Do you still stand by that 1990 document?

**Dr De Klerk:** Pretty much, yes. I was surprised when I read it. As I say, the only thing that has changed is that there is more evidence that chrysotile is perhaps less harmful; crocidolite is more harmful than chrysotile. The Canadian government has been funding a lot of studies. It has redone a lot of the old animal studies that had all shown that chrysotile was as harmful as crocidolite in rats. The theory now is that because the rats were given such heavy doses, it was not the same processes that were going on in humans, but I am not totally convinced.

**Hon ED DERMER:** What types of asbestos are generally found in asbestos-containing materials in schools, or is that too general a question to be of any value?

**Dr De Klerk:** Again, they got some data from Hardie's and they did their own inquiries, but it is generally assumed that after 1984, there should not be any asbestos at all in the cement. Between 1974 and 1984, there was not supposed to be any crocidolite, but there was, and there was still amosite and chrysotile. I cannot quite remember the exact dates.

**Hon ED DERMER:** Amosite is brown; is that right?

**Dr De Klerk:** Yes. I am not sure whether Hardie's provided it to that committee, but somebody had evidence of what Hardie's said it had put in its different mixes. Apparently, it would change it;

if it happened to run out of crocidolite one day, it would chuck in a bag of amosite. It was all very varied. Generally, anything of a certain age will always have some dangerous asbestos in it.

**The CHAIRMAN:** Just to complete the picture on safety levels, what do you and the medical and scientific communities consider a safe level of asbestos fibres in the atmosphere? What level carries a negligible risk of harm, and is there a level that carries no risk of harm at all?

**Dr De Klerk:** Again, if you remember the downward risk, I am not saying that there is no risk, but it is what is acceptable, and that is a society thing. What we argued in this document was that the royal society had come up with some figures about what were acceptable risks and what were not, and the one that it listed as an acceptable risk was one in a million per year, which is about 80 in a million lifetimes. That was the figure that we worked on. One fibre per litre, or 0.001 fibres per millilitre, will be below that, and then this action level of 0.01 could be slightly above that. That could be why they have chosen that level as an action level.

**Hon ED DERMER:** How does the level of acceptable risk compare with the general ambient level that one might expect to find?

**Dr De Klerk:** It is hard to measure. The lower it gets, the harder it is for people to be able to measure the fibres anyway. Generally, that risk of one fibre per litre is lower than the one in a million risk, so the two roughly equate.

**Hon ED DERMER:** What is seen as acceptable is similar to what you would expect to be the normal ambient level in the metropolitan area?

**Dr De Klerk:** Yes. Generally, it is probably less than one fibre per litre. People have looked at the measurements in particular situations and it rarely gets above that, unless there has been some severe activity with, as you have said, drilling asbestos walls, chucking sheets around or stacking stuff.

**Hon ED DERMER:** Is there a variation between metropolitan ambient levels and country ambient levels?

**Dr De Klerk:** Yes, I think so. I have not looked at that recently, but as far as I know there is. There are a lot of very short fibres in metropolitan areas because of brakes and clutches and things. They are always made out of chrysotile, plus they are short, and when the brake works, it grinds them up even more. Again, it is always less than that level.

**Hon ED DERMER:** And the shorter ones are less dangerous, are they not?

**Dr De Klerk:** Yes. The main risks are caused by the fact that asbestos hangs around in the lungs. If it was cleared straightaway, it is thought that there would be almost no risk at all. That is why they use these various substitutes, because they all have fibres of the same sort of size and shape but they tend to get cleared very quickly. That is why it is thought that chrysotile is less risky as well, because it is cleared a lot faster. In work that we have done, it seems that crocidolite has a half-life in the lung of about eight years, whereas chrysotile is thought to have a half-life of a month or less. It is cleared a lot quicker.

**The CHAIRMAN:** In terms of the levels, the Department of Education and Training has advised that action is taken if airborne asbestos fibre levels exceed one-tenth of the national occupational exposure standard; that is, action is taken if asbestos levels exceed 0.01 fibres per millilitre of air. Do you have any comment on that action level?

**Dr De Klerk:** Because the 0.001 is the level that people think is an acceptable level of risk, anything above that should be actioned, and 0.01 is probably taken for that reason. If you are getting those sorts of levels, I would certainly be doing something about it.

**The CHAIRMAN:** However, you are comfortable with that as a threshold level?

**Dr De Klerk:** You might want to halve it again, but I am not sure what that means in terms of how the sampling is done. You could make it 0.005 or something like that, because that is still higher than the background fibre per litre. I would have thought that if you were getting those levels, it would be worth doing something about. If that was 0.01 of crocidolite, I would make it lower. I think it should be lower if you are detecting crocidolite fibres.

**Hon ED DERMER:** How much lower?

**Dr De Klerk:** I think it should be half that - 0.005.

**Hon ED DERMER:** Which in that sense would be about five times the background level; is that right?

**Dr De Klerk:** Yes.

**The CHAIRMAN:** In terms of the department addressing the situation, you may be aware that a survey to identify and assess the risk of asbestos-containing materials was conducted in WA state schools between November 2006 and July 2007. The survey involved the visual identification and assessment of asbestos-containing materials and identified that ACM was assessed in terms of its physical condition and probability of disturbance, which determined the risk ranking given to the ACM. Air monitoring was not undertaken as part of the survey but is conducted in certain circumstances. Do you have a view on the methodology followed in assessing ACMs in state schools?

[12.30 pm]

**Dr De Klerk:** It seems to me on the face of it to be a fairly sensible approach, provided it is done on a regular basis. I read the evidence that the department of education and the department of works gave.

The issue raised by Carine high school is obviously something whereby fibres were being released. If this kind of survey was being done regularly, that would not have happened. Therefore, I think it is good to remind people of how risky asbestos is. Even though in place it is okay, as soon as you start moving it around, or as soon as you start brushing it, drilling it or chucking it away, that is when it becomes risky, and it is also risky for the people who are doing the removal as well, but that is a separate issue, I think. Provided this kind of survey is done regularly and there is a register of what asbestos materials are there, where they are, whether they are being disturbed or not, and whether people have to come in contact with them or not, I think that is an adequate way of looking at things.

**The CHAIRMAN:** What would you consider a reasonable, regular basis - two years, five years or 10 years?

**Dr De Klerk:** I think you would probably have to do it annually, and possibly in a different season, if you have trees growing and rubbing against things and that kind of stuff. Again, I am not an expert on that kind of thing.

**The CHAIRMAN:** In terms of the assessment, do you have a view on when air monitoring or specimen analysis of asbestos-containing materials should be conducted?

**Dr De Klerk:** In terms of a specimen analysis, as I say, given a certain age of asbestos cement, you usually know roughly what is in there. The specimen analysis, while narrowing down what is actually in there, is going to be fairly expensive, I imagine, and it might not necessarily add any more than what you know. If, say, there is a question that there might be pure chrysotile asbestos in there or there might be some crocidolite, I think then you probably need to do some specimen analysis. However, if people are just saying, "Well, it is this age asbestos, and it is crumbling away", I cannot really see the point of doing the specimen analysis. In terms of the air monitoring, I used to think that you should always be doing air monitoring. Certainly, in the report that I referred to, although there was extensive weathered asbestos around the place and they did find fibres in

gutters and downpipes and everything, there was very little found in the air. Again, I am not sort of convinced one way or the other, but I think every now and again it is worth doing air monitoring on a general basis just to find out what the levels are round about in the metropolitan area or whatever. You do need to do air monitoring when people are actually demolishing asbestos, and you have to keep a check that it is being done correctly and that the whole procedure is following the way it should do, and also that people's protective equipment and gear are working properly.

**Hon ED DERMER:** Do you have any thoughts on what would be a suitable routine response from, say, the Department of Education and Training or the Department of Housing and Works to the identification of crumbling asbestos-containing materials?

**Dr De Klerk:** I suppose the decision from the education point of view is do you do it straightaway and then risk the exposure from the demolition and removal, or do you weigh that up against waiting until the school holidays and doing it when there is nobody around. I would be inclined to the latter, because the amount of fibre that is released by demolition removal is so much higher than anything you will get just from crumbling.

**Hon ED DERMER:** That is with respect to removal.

**Dr De Klerk:** Yes.

**Hon ED DERMER:** What about an alternative policy such as putting a protective lacquer or some sort of coating over the asbestos-containing material?

**Dr De Klerk:** That works. The worst thing to do is to come along and scrape off the lichen. That kind of thing happens. I would be inclined to leave stuff and then remove it when nobody is around.

**The CHAIRMAN:** Just a general question: what is the health risk of asbestos-containing material if properly monitored and maintained?

**Dr De Klerk:** Again, if it is monitored and maintained and it is not releasing fibres, apart from in wind and rain, it has been shown that the amount in the air is going to be less than one fibre per litre and that the risks are sort of acceptable and, therefore, negligible, I suppose.

**The CHAIRMAN:** Do you have any other comments on how asbestos is or should be assessed and managed?

**Dr De Klerk:** I do not think so, except that it needs to be on people's minds, as I say, that it is dangerous. I think it is more so for tradesmen and demolition people and removers. One of the recommendations in here was actually that the disposal of asbestos should be free, so that people are encouraged to get rid of it and dispose of it properly. As far as I know, it is still very expensive to get rid of asbestos, and when people are demolishing fences, they are probably encouraged to pretend that it is not asbestos and that it just gets disposed of in the same way as a lot of other things.

**Hon ED DERMER:** I suppose accounting for the hazard of disposing of the asbestos would be a big part of the expense, would it?

**Dr De Klerk:** I think so, yes. The recommendations for disposal are covering it in black plastic and burying it and all this kind of stuff; therefore, it costs people to do it. It is when it is being used in that way that it is at its most dangerous. That is one of the issues about management. I forget how many years ago it was now, but when they were demolishing the markets down by the freeway down here, there were people just knocking it all down, and no-one was wearing any masks and no-one was taking any sort of precautions at all. It was all -

**Hon ED DERMER:** Quite disturbing.

**Dr De Klerk:** Yes. It was very dangerous for them, and also for the passers-by, but a lot more for the people actually doing it.



**The CHAIRMAN:** Do you think some of that still happens, perhaps on public buildings and private buildings?

**Dr De Klerk:** Yes, I am sure it does. If somebody is having a fence replaced or something like that, you often see piles of old fencing lying around, and then suddenly it is gone. You are not really sure where it went or how it went or that kind of thing. The greatest number of people getting mesothelioma today are building workers, plumbers and people like that who have had to work with asbestos, often without even realising it, over the past 50 years. It is going to carry on being those people if people are not more vigilant about where the asbestos is.

**The CHAIRMAN:** Do you have any data on that?

**Dr De Klerk:** The federal government has funded this National Research Centre for Asbestos Related Diseases, which has funded quite a few projects. One of them is coming out of Curtin University. They are doing quite a few surveys on how people use asbestos and what they have come into contact with, what they think their risks are and all that kind of thing - that is Peter Howard - and that should be producing data on that. However, as far as I know, it is only hearsay, the rest of it.

**Hon ED DERMER:** Do you have any idea when that work may lead to publication?

**Dr De Klerk:** It should not be long. They are doing it first in Western Australia, and then it is going to be a nationwide survey, so it has been sort of piloted over here, just to make sure the questions are okay and all that kind of thing.

**Hon ED DERMER:** Would they then release what they learn in Western Australia before they -

**Dr De Klerk:** I hope so, yes.

[12.40 pm]

**The CHAIRMAN:** You mentioned that you had read the department's response to this committee in terms of the asbestos survey.

**Dr De Klerk:** Yes.

**The CHAIRMAN:** Do you have any observations on the asbestos survey conducted by the department?

**Dr De Klerk:** Not really. It seemed to be quite -

**The CHAIRMAN:** I guess one question that was raised with the committee was that there are only eight inspectors or compliance officers, I believe. Would you consider that adequate for something like 760 schools?

**Dr De Klerk:** How many a week would they have to do?

**Hon ED DERMER:** What was the period over which that was done?

**The CHAIRMAN:** We will get our calculator out.

**The Advisory Officer:** November 2006 to July 2007.

**Dr De Klerk:** Are they on permanently, or were they just brought on for this survey? I was not quite clear on that.

**Hon ED DERMER:** They were specifically trained to conduct the survey. They had the grid system that you would have read about in the material.

**Dr De Klerk:** Yes.

**The CHAIRMAN:** I am not sure whether they were permanent staff, but they were certainly contracted for this survey.

**Dr De Klerk:** Yes, I think so. I suppose the question would be: should you at least somewhere or other have had some air monitoring just to show that there was not much around? Other than that, I would have thought that would be sufficient.

**Hon ED DERMER:** The other question raised with us in that context was if you had that number of inspectors for that number of months looking at that number of schools, what was the probability that they would find all the asbestos-containing material versus the probability of them overlooking some of this asbestos-containing material? That is a very difficult question to answer, I think.

**Dr De Klerk:** Yes. Also, I got the impression that all the schools were supposed to have an asbestos register already anyway, or was this survey actually done to compile a register?

**Hon ED DERMER:** I think the survey was done to have a comprehensive survey of all the schools.

**Dr De Klerk:** Yes.

**Hon ED DERMER:** They were to be consistent. They were trained, and the matrix they were asked to use was, I think, designed to achieve consistency in the way the survey was carried out between each of the schools.

**Dr De Klerk:** Yes. If you have a register and you have a consistent survey, you should be able to do that, but if there is no register at a school and you have to go in blind and you do not know what is there and what is not, I would imagine you would be fairly hard pushed to deal with all those schools in that area of time.

**Hon ED DERMER:** But one of the notions that the education department often produces is comparability, and to me it seemed that they were training these inspectors with a technique that could then allow them to make sure that the same standard of analysis was applied to each of the schools. Does that make sense?

**Dr De Klerk:** Yes. It is a sort of standard way of doing a survey. I mean, I suppose you could argue in that case that if they had to set priorities, the priorities would be done fairly. I mean, that would be the main argument for doing it like that. However, if you actually really want to root stuff out, there is no reason for it to be comparable, is there?

**Hon ED DERMER:** You would analyse each school on its own merits?

**Dr De Klerk:** Yes, but, as I say, if you want to have set priorities, you need to do it -

**Hon ED DERMER:** I can understand the education department wanting to know that each school was analysed to a certain standard.

**Dr De Klerk:** Yes.

**The CHAIRMAN:** Where ACMs have been identified in schools, do you think they should be labelled with hazard warnings; and, if so, where should the threshold be, and what sort of signage should there be?

**Dr De Klerk:** I think the warnings would help, because then that would remind people in between the surveys that there was asbestos there and that they should not be doing stuff with it.

**Hon ED DERMER:** And to look out for crumbings.

**Dr De Klerk:** Yes, and to report things like trees rubbing against it and that kind of thing.

**Hon MATT BENSON-LIDHOLM:** Can I take that a step further? We have discussed that particular issue in previous meetings. Do you have a viewpoint on the adequacy of labelling in schools, and indeed perhaps even to an expansion of such measures to other public and even non-public buildings and worksites? Is that extremist, too expensive or not warranted?

**Dr De Klerk:** I suppose if you say you should do it in schools, then you should probably do it everywhere else.

**Hon MATT BENSON-LIDHOLM:** That is my opinion.

**Dr De Klerk:** I mean, do some local councils keep registers of asbestos in their area - that is, which houses have asbestos and where the fences are - and others do not?

**Hon MATT BENSON-LIDHOLM:** That I am not sure of.

**Dr De Klerk:** Obviously, then you start looking at expense, and then you need to do a sort of cost-benefit type -

**Hon MATT BENSON-LIDHOLM:** All I am thinking of in this instance is, obviously, the statistical risk, and from listening to you, that would be fairly low.

**Dr De Klerk:** Yes.

**Hon MATT BENSON-LIDHOLM:** But I am thinking also that if we suggested that such a scheme should be put in place in our education system, then as you have already indicated, it does not sound unreasonable to me to extend that into other public areas.

**Dr De Klerk:** Again, it is a sort of society view, I suppose. Schools are the most important, because they have the youngest people there, apart from kindergartens. Therefore, in terms of mesothelioma, they have a long life in which to get the disease and it sort of keeps on going; that risk keeps on increasing. So, you could make that argument if you did not want to do it for all the other public buildings. In terms of the risk to tradesmen and people working in those buildings, I think there should be some warning, because somebody coming along, like a plumber, and scraping lots of insulation off a pipe, is going to get a huge amount of exposure if he does not know what it is.

**Hon MATT BENSON-LIDHOLM:** This is getting off the track.

**Dr De Klerk:** Yes.

**Hon MATT BENSON-LIDHOLM:** I wonder whether these sorts of issues are spelt out to apprentices in terms of completing their trade qualifications. Perhaps they are; I do not know.

**Dr De Klerk:** No, I am not sure either.

**Hon MATT BENSON-LIDHOLM:** I am just thinking on my feet here, but that might be an issue as well.

**Hon ED DERMER:** Could I pursue a different line of questioning, Mr Chairman?

**The CHAIRMAN:** Perhaps, Ed, you have had a go. I think Nigel has a question.

**Hon NIGEL HALLETT:** I have just a one-off question about some of these old asbestos houses, such as beach shacks, that a person might knock down over the weekend. What sort of risk are they putting themselves at there?

**Hon MATT BENSON-LIDHOLM:** It depends on whether it is my beach shack or not!

**Dr De Klerk:** It depends on whether there is any windward on the building! It is an appreciable risk, and you could actually work it out. I mean, there were some examples in there of different scenarios. They were mostly for 10 years' exposure at certain levels, but you could work out what your added risk was. It would be more than the sort of one in a million, but it would not be huge. But, again, as I say, there are people who are known to have contracted mesothelioma from a few days at Wittenoom, or a couple of weeks working in their house at home, or drilling, sanding and stuff.

**Hon ED DERMER:** From listening to you today, Dr De Klerk, it seems that two or three days is roughly the shortest time, although in the earlier scenario of a child in the classroom you mentioned 10 in a million, which I presume means the same as one in 100 000.

**Dr De Klerk:** Yes.

**Hon ED DERMER:** Which would be more than one in a million, which refers to the general population.

**Dr De Klerk:** Yes. I mean, it depends, again, on how long the work has been done for, but if it is just like the one day, again, it would probably be not much more than that one in a million.

**Hon ED DERMER:** As an epidemiologist, you would have all sorts of statistical data, I imagine. How often do people present with mesothelioma or other asbestos-related lung diseases with no capacity at all to identify any instance in their personal history when exposure would have been increased?

**Dr De Klerk:** In Western Australia, it is about 10 per cent of the cases, and at the moment there are about 80 or so every year. So, it would be eight of those; say about eight to 10 per year.

**Hon ED DERMER:** Out of about 80?

**Dr De Klerk:** Yes.

**Hon ED DERMER:** Who could not identify it in their personal history?

**Dr De Klerk:** Yes.

**Hon ED DERMER:** Of that eight to 10 per year, I imagine there are two possible explanations. One is that something has happened that they have forgotten.

**Dr De Klerk:** Yes.

**Hon ED DERMER:** Or, secondly, that a much shorter period of exposure than three days may have caused the disease. Is that logical?

[12.50 pm]

**Dr De Klerk:** Yes. There is a third alternative. It has been argued that there is a sort of background number of sporadic mesotheliomas that just occur and are not due to asbestos, so that not every case is caused by asbestos. That is almost accepted, and there is a bit of a discussion about that at the back of this paper. There are populations where they think nobody has ever had exposure to asbestos, and they still get an annual rate of mesothelioma of about one to two per million. Some people dispute that, but it seems likely that it could happen. There is no reason it should not.

**Hon ED DERMER:** I understand that things such as fibreglass can also cause mesothelioma. Is that correct?

**Dr De Klerk:** I do not think anyone has ever proved it. It certainly causes mesothelioma in animals, again because it is the persistence thing in animals to stay around for a lot shorter time to cause diseases, but fibreglass is actually eliminated quite quickly from human lungs.

**Hon ED DERMER:** I am probably getting into a question that is inappropriate for a trained statistician, so pull me over if that is the case. Let us say that eight people present each year in Western Australia, and it cannot be identified where they have had two or three days of intensive exposure, and there are three possible causes: one, they have forgotten; two, a shorter period of exposure is the cause; and three, it is some other cause unrelated to asbestos. I do not suppose you would be game to break those eight into three different categories as an estimate?

**Dr De Klerk:** What I worked out in this document was how many one would expect if it was just the risk of being exposed to the background level of, say, one fibre per litre, and the number one would expect would actually be slightly more, given that, than eight.

**Hon ED DERMER:** So you could account for the eight in terms of background ambient exposure?

**Dr De Klerk:** Yes.

**Hon ED DERMER:** Okay. That is a very sensible way of answering my probably quite ridiculous question! Thank you.

**Dr De Klerk:** It is one that is often raised, because people do not really know. Neither do they know whether mesothelioma was around before asbestos was heavily used. There was a big argument in the 1940s and 1950s that there was no such thing as mesothelioma and that it was just an artefact of some pathologist in South Africa. As it was not known to exist before then, people say that it did not exist and that therefore it has to be the asbestos that caused all of it.

**Hon ED DERMER:** It is far more likely to be a less precise diagnosis.

**Dr De Klerk:** Yes, I think so, because it is a very hard diagnosis to make.

**The CHAIRMAN:** Dr De Klerk, are you aware of any studies or papers relating to asbestos risk and how to manage asbestos risk that you would like to inform the committee about or provide us with details of?

**Dr De Klerk:** As I say, there are ones that have looked at the relative carcinogenicity of the types of asbestos, which the committee probably has already. There has not been much that I have seen since then about managing the risk. There have been a lot of papers on relative carcinogenicity and that kind of thing, but I do not know that there is anything more that would interest people.

**The CHAIRMAN:** Okay. So in a general sense, the work you did back in 1990 - the science and the medical assessment - is still basically sound, in your view?

**Dr De Klerk:** I think so, yes. It is sort of a bit sad in a way, really, and depressing!

**The CHAIRMAN:** It could be seen as a positive!

**Dr De Klerk:** Yes.

**Hon MATT BENSON-LIDHOLM:** You might be well and truly ahead of your time. Think of the positives!

**Dr De Klerk:** Yes!

**The CHAIRMAN:** Dr De Klerk, do you have anything you would like to mention to the committee to finish up with?

**Dr De Klerk:** No; that is probably everything.

**The CHAIRMAN:** Okay. Thank you for your time.

**Hearing concluded at 12.54 pm**