

**STANDING COMMITTEE ON
ENVIRONMENT AND PUBLIC AFFAIRS**

**TRANSCRIPT OF EVIDENCE
TAKEN AT PERTH
ON MONDAY, 18 FEBRUARY 2002**

SESSION 2

Members

**Hon Christine Sharp (Chairman)
Hon Kate Doust (Deputy Chairman)
Hon J.A. Scott
Hon Louise Pratt
Hon Frank Hough
Hon Robyn McSweeney
Hon Bruce Donaldson**

[11.30 am]

**HARPER, DR ANDREW,
Private Medical Practitioner,
examined:**

The CHAIRMAN: Please explain to the committee the capacity in which you appear today.

Dr Harper: I am here in my capacity as an occupational physician and private practitioner in Perth. I have seen a number of workers from Alcoa, but I have not seen any residents from Yarloop. I have been involved in my capacity as a doctor both directly with Alcoa and with some of the workers since 1996.

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

Dr Harper: I have read and understood the document.

The CHAIRMAN: These proceedings are being recorded by Hansard and a transcript of your evidence will be provided to you. To assist the committee and Hansard, please quote the full title of any document to which you refer during the course of this hearing. I remind you that your transcript will become a matter of 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 that request, any public and media in attendance will then be excluded from the hearing.

Until such time as the transcript of your public evidence is finalised, it will not be made public. Any premature publication or disclosure of public evidence may constitute a contempt of Parliament and may mean that the material published or disclosed is not then subject to parliamentary privilege. Do you wish to make any statement to the committee?

Dr Harper: I appreciate the opportunity to appear before the committee. I wanted to appear to make some comments regarding the medical care provided at Alcoa. I speak as a clinician and public health and occupational physician. I have made four points in my submission. First, I believe this is a public health problem, and I have been of that view since I first saw the workers. As a public health problem, the management of the affected workers requires a public health program that addresses both preventive and treatment components. I am concerned that there has not been a discrete, organised public health response to the situation that has occurred. Secondly, medical treatment for affected workers should be independent of any vested interests. I am concerned that a medical program for affected workers provided by an employer could be subject to the economic interests of the employer and would have the potential to interfere with the quality of care and the access that people have to it. Thirdly, a number of people have been affected and they have ongoing problems. It is appropriate, in terms of public health practice, that there be a health surveillance program. In my terms and in public health terms, that would constitute a register of people who have developed symptoms, a systematic and standardised assessment process, and appropriate medical care and follow-up treatment. I am unaware of any

organised and systematic health surveillance of the affected workers. Fourthly, we must have industrial hygiene strategies. I refer specifically to onsite strategies designed to minimise exposure. These strategies vary from workplace to workplace and according to the problems involved. One issue is the quality of air inhaled by the affected workers. The company should be looking at whether the air in the workplace can be controlled. I understand the workplace is open to the outside, which has meant that in certain environmental circumstances the plume has come right into the workplace. It is appropriate that there be an industrial hygiene program specifically to focus on endeavouring to control the workplace air. For example, one could look at changing work patterns. At present, people are working in a shed that is intermittently contaminated by the plume. I understand that there is no warning system or consequent movement of workers. Under certain circumstances, the plume from the liquor-burning plant causes exposure. There is the potential to say that if the weather conditions are unfavourable something should be done and do it. Obviously, an effort should be made to move the workers from the site to prevent exposure. I understand there has not been a systematic industrial hygiene effort along those lines. The circumstances are such that there must be an independent and systematic health services program. The problem has been manifest since 1996 to my knowledge. That is when I first highlighted the need for a public health program. I understand that has not occurred.

The CHAIRMAN: You say this is a public health problem. What definition are you using?

Dr Harper: I base that on the fact that a number of people have been affected. It is not as though we are looking at one individual who is ill. We have an environmental cause of some kind and a group of people who have been affected, including community members. We are dealing with something that is of general relevance to workers and the community. That is the reason I call it a public health problem. It is also persisting.

The CHAIRMAN: You say that you have been suggesting a systematic public health response since 1996. In what forums or correspondence have you put that suggestion to others?

Dr Harper: I was consulted in 1996 and after through the union. I wrote first to a lawyer saying that I believed this was a public health problem. I was later asked to write a report, which then went to a union. I labelled it as a public health problem in two pieces of correspondence - firstly in 1996 and secondly in 1997. I have not done that since.

The CHAIRMAN: Do you remember to which union that correspondence went?

Dr Harper: It was the Australian Manufacturing Workers Union.

The CHAIRMAN: Have you written to any public health or other government authorities suggesting that there should be a systematic response?

Dr Harper: I have not.

The CHAIRMAN: What kind of doctor are you and how have you become involved in this issue?

Dr Harper: I am a qualified medical practitioner and a specialist in public health and occupational medicine. I have a fellowship with the Australasian Faculty of Occupational Medicine and the Australasian Faculty of Public Health Medicine,

which are both part of the Royal Australasian College of Physicians. I have been involved because I have been consulted in both the medical and legal contexts regarding the health of workers. I have also been consulted by general practitioners who have referred people to me for my medical specialist view.

The CHAIRMAN: At this stage the committee has not heard evidence from any other doctors. What kind of evidence have you received from general practitioners about this situation? What kinds of symptoms have been reported? What is the pattern?

Dr Harper: The symptoms people present with are generally not specific to any particular disease. They include fatigue, upper respiratory irritation, general muscular discomfort, and mental symptoms - that is, some degree of difficulty concentrating - and a variety of other symptoms such as urinary frequency at night. Generally, they are non-specific or constitutional. These symptoms are typical of exposure to a mixture of chemicals. When people are exposed to such a mixture, they get a general disruption of metabolism at the cellular level. That causes symptoms such as fatigue.

The CHAIRMAN: Do you accept the validity of multiple chemical sensitivity as a distinct disease entity?

[11.45 am]

Dr Harper: I accept that there are people today in very different workplaces who are experiencing recurrent symptoms, where the symptoms start with some exposure to a chemical and then may get worse in time. I see this pattern a lot. I see it in people who have worked in the aviation industry, farmers, mechanics and in this group of people from Alcoa. This has been called multiple chemical sensitivity. It is a clinical entity, in that people have developed these symptoms. We can call it multiple chemical sensitivity - I do not have any objection to that label - but there is some form of chemical injury that is causing ongoing disability and ongoing sensitivity to exposure, quite often to a growing number of chemicals, such as the fumes from wood-burning stoves, bush fires, cigarette smoke, diesel, perfume and a whole lot of things, which then incapacitates people in their everyday life; they cannot go into a chlorine pool, for example. There is a pattern of this sort of disability.

The CHAIRMAN: Could you give the committee some background on professional debates about this phenomenon and the certainty of the science involved in understanding it? Is this a controversial area or is it widely accepted by medical science? Where would you recommend that the committee go for a better understanding of this phenomenon?

Dr Harper: It is controversial, and the controversy has probably arisen because toxicology in medicine, traditionally, has grown up around poisoning from heavy metals, such as mercury and lead, which do not change in the body. If a person is sick from mercury there are tests to determine that they have mercury poisoning, and when the mercury is taken away - this is not a very good example, because they can be left with permanent problems - but generally there is a clear identifiable chemical cause. That is what we in medicine have been trained for in terms of toxicology, and there is usually evidence of that putative chemical in the body. The controversy regarding the situation at Alcoa is that it is not a single chemical causing the problem, it definitely appears to be a mixture. The difficulty is that in the environment the level of a given chemical may be well below the safety level defined by government standards, but when that chemical is mixed with others inside the body it can be toxic. We take environmental measures and we come back with potentially favourable results, but we

still have people who are sick. Literature regarding the toxicity of mixtures has come from basic biochemists who study the cellular chemistry at a molecular level. The committee could look at the journals of toxicology and molecular biology. I can provide lots of references - I do not have them with me now - but there is literature supporting this area, both from animal studies and also at a clinical level.

The CHAIRMAN: Do you think it is fair to say that this is a form of biological monitoring which is giving us results which are hard evidence of a problem?

Dr Harper: I do not understand your question.

The CHAIRMAN: We are told that levels are not being exceeded for chemical emissions. There is therefore an inference that perhaps the health issues being reported are not substantiated. When there is this level of complaint, do you consider that that in itself is a form of biological monitoring which is hard evidence that there is a problem, even though the medical science around that is uncertain?

Dr Harper: It is absolutely appropriate that the symptoms people are reporting be treated as valid evidence. This is a crucial area of conflict in medicine today. As doctors we have been brought up to look at physical signs, and there is a strong tendency to adhere to that when one is under the difficult circumstances of an industrial health problem, but in everyday medical practice the singularly most important part of a medical assessment is the history provided by the patient. This is valid information. I worked with a professor at Harvard University a few years ago who has written extensively about the validity of the patient's narrative and the history provided, and it should be treated as valid clinical evidence. It is absolutely inappropriate that the absence of physical signs be treated as having more status and import than the clinical symptoms. As to the first part of your question, the evidence that the environmental levels of individual chemicals are within safety levels is inappropriate evidence for saying there is no problem. The biochemistry and the toxicology of this situation is such that that is not the way to measure toxicity in this circumstance. It has been the traditional way to do it, but when we are faced with mixtures, that does not apply. There has been strong adherence to this traditional toxicological stand, and in my view it is inappropriate to be using that as the yardstick for whether or not there is a health problem.

The CHAIRMAN: What is the way?

Dr Harper: Firstly, to examine the histories of these people. I certainly have not seen all the people from Alcoa who have been sick; far from it. It is important that we monitor the environment, but what is also important is the weight that is put on that monitoring. We need to understand how we interpret it. The environment does need to be monitored, but importantly the patients have to be examined and their histories taken and assessed in a comprehensive medical and clinical manner; they certainly have to be examined and assessed for the existence of some other identifiable known medical diagnosis to eliminate other things. The diagnosis of this chemical problem is based on history and on the exclusion of other medical conditions which could cause illness. Therefore, it is largely a clinical assessment process.

Hon KATE DOUST: Was the employment history of the people you have examined short term or long term? I would expect some of the chemicals we have seen listed that are emitted from the company plant to be the types of chemicals that could build up and may not present any symptoms until a later period. Are they the types of chemicals that would display an early presentation of symptoms?

Dr Harper: They have been long-term employees. The build-up of chemicals is a complicated question. Some chemicals certainly do build up in fat, and some scientists feel that the build-up of certain chlorinated chemicals in fatty tissue can over time reach a point where they produce symptoms. That is a possibility.

Hon KATE DOUST: I am interested in the exposure standards, because that is something people have raised. I do not know how often these standards are changed, and I am interested in the fact that people are not simply exposed to one single chemical, they are exposed to multiple chemicals. Is there some connection with what they are exposed to at work and what they take home in their system? I do not know if a lot of these chemicals are simply washed away or they are absorbed and build up, and then when the employees go home there may be some reaction that might exacerbate the health problems. Is that possible?

Dr Harper: It is possible. It certainly has not been likely in the circumstances that I have addressed.

Hon KATE DOUST: Is it the case that perhaps the exposure standards need to be reviewed to also take into account the range of chemicals people are working with, and the amount of time they are working on a particular task where they would be exposed to a cocktail of chemicals?

Dr Harper: It is important to reduce the time they are exposed, but it is all very complicated, particularly when we are dealing with a bunch of mechanics who are all dealing with petroleum products all the time. The frequency of health problems among the tradesmen at Alcoa is certainly different and less than the frequency of problems among the same type of tradesmen in other workplaces. We are looking here at a bunch of symptoms and problems whose frequency has been striking.

Hon KATE DOUST: I assume that a number of the people you have treated have returned to work. Did they return to the same type of work or were they given alternative duties? If they were given the same type of work, did they demonstrate those types of symptoms on an ongoing basis?

Dr Harper: You have asked a pretty complex question. The symptoms in these people are recurrent with further exposure.

Hon KATE DOUST: Did the company tend to move them back into the same positions in most cases, or were they given alternative work?

Dr Harper: You are asking me for information about a different group of people, so it varies. It is a complicated question.

Hon LOUISE PRATT: Generally speaking, Alcoa has used the word "odour" to describe its emissions. Do you have a comment as to whether emissions, broadly speaking, should be defined as an odour, and whether that term is appropriate?

Dr Harper: I do not think it is appropriate, because it does not characterise the situation. On occasions there is an odour, on others there is not, and the history presented by workers has been of developing symptoms sometimes with odour present and sometimes with odour absent.

Hon LOUISE PRATT: Alcoa has acknowledged that odour can cause headaches and nausea, as mentioned by the previous witness, and it has argued that that odour is not a health hazard. Would what causes headaches and nausea be different from what might cause other symptoms further down the line? Obviously there is a potential for

a wide variety of health impacts that might not all be caused by the same phenomenon.

[12 noon]

Dr Harper: It does not make any sense to talk about odour, headaches and nausea because it depends on what people are smelling; it depends on the chemical. In that framework, we are not able to know what we are talking about. It is of no reasonable sense to discuss odours in general. Lots of things cause a smell. It is not necessarily the thing that a person is smelling that is the thing that is hurting that person. We do not know what it is. There is no way for you to know what I am talking about if I do answer your question.

Hon J.A. SCOTT: You were talking about the changing circumstances. One of the things that concerns me is the age of the regulations that govern emissions in workplaces. Are you aware of those regulations; and, if so, do you think they are adequate for modern times? The regulations that are in place deal with individual chemicals rather than multiple chemicals.

Dr Harper: Regulations that focus on individual chemicals are not appropriate. That has come up in lots of other circumstances. A recent notable one was the BAe146 air attendants' problem. There were chemicals involved in that case and that is a mixtures problem. It is estimated that over 400 of the 626 F111s had gas tank sealers that were affected by mixtures. We have public health and industrial health problems for which regulations focusing on one chemical do not apply. Since World War II, the production of industrially made, man-made chemicals has become an exponential curve. Thousands of them have been produced, but only a very small proportion have been tested for toxicity. Virtually no mixtures have had toxicological assessment before getting into the industrial area. Those regulations are applicable for singular types of things like lead. However, when we are dealing with this Alcoa-type environmental contamination, we need to think about it differently.

Hon J.A. SCOTT: I have noticed from my own research that many chemicals that are going into the environment, not just into workplaces, have not had toxicity, carcinogen and mutagen tests and so on. Do you think we need a stricter regime to decide what sorts of chemicals should go into our breathing space, both inside and outside the workplace, than we have currently?

Dr Harper: Very much so, and particularly in the location of industry. This is a major problem; this sort of industry can be found right up against local communities. We are paying the cost of that; the community, the local residents and the workers are paying the cost. That is quite inappropriate. This is when the public health problem side of things must be brought into government decision making about where industry is placed. The issue at Alcoa is that what comes out of it should not be close to people. It makes people sick and the principle is to separate the two.

Hon J.A. SCOTT: Do you think we should look at not only what is being used in a workplace or in the community but also the issue of planning regulations and so on surrounding them?

Dr Harper: Very much so.

Hon J.A. SCOTT: One of the witnesses in Waroona described having had chromosomal damage, presumably from the emissions. I will call them emissions rather than odours. Is that a typical type of damage that can occur in people? What is the impact of chromosomal damage? Can you describe what that is?

Dr Harper: The impact of chromosomal damage may be minimal or zero possibly. The significance of it is that it is an indication that there has been genetic damage, there has been damage to the nucleus of the cell, and it is at that level that these mixtures have their effect. Fatigue in patients is due to the disruption of the energy-producing mitochondria - that part of the cell. The interruption of enzyme functioning in cells also involves interruption with the DNA with the central important code in the nucleus. A lot of the mechanism for these constitutional symptoms results because there has been some bombardment of or some disruption to the molecular structure in the cell; that causes problems. The chromosomal test is simply telling us in black and white that there are some chromosomes that are a bit different in shape; that is, they are evidence that there has been some damage. The weakness with chromosomal studies is that other things - specifically radiation - can damage chromosomes. We must be aware of that when we interpret those results.

Hon J.A. SCOTT: That would not occur when something was psychosomatic.

Dr Harper: It would not.

Hon BRUCE DONALDSON: I was interested in the second point you raised; that is, medical treatment for affected employees should be administered independently. I thought there was a degree of independence there now. I thought people would go to their local general practitioner. In many cases, they have been referred to independent specialists and people such as you. What do you mean by "independent"?

Dr Harper: I mean that that part of the medical management for workers is conducted by medical services on-site by doctors employed, paid and salaried by the employer. They belong to the company. They play a part in the medical management, particularly in the first presentation. When someone is sick at eight o'clock in the morning, that person would go to the medical service on-site. The degree of independence of that service needs to be reconsidered. I feel that it would be far better that there not be any direct involvement, particularly paid involvement in terms of salary, between the employer and the medical provider.

Hon BRUCE DONALDSON: If I were in the same situation, I would see my local GP first. Then I would probably be referred to a specialist, irrespective of the advice that had been given to me on-site by a paid doctor from, in this case, Alcoa. Would that not be the normal procedure?

Dr Harper: That is not a description of what actually happens at Alcoa. Workers there had frequent and important contact with the medical staff of the company.

Hon BRUCE DONALDSON: You made a statement about the use of toxicology and said that it could not be identified or utilised because of the number of chemicals that are involved. You also referred to a public health program. Would the use of toxicology in random blood sampling detect any inconsistencies or consistencies between people who have been affected? Would it not be useful to utilise a monitoring program and modern forensic science as a means to detect something that is consistent between those people who have certain symptoms, subject to the people concerned giving consent?

Dr Harper: First, the most common test result of this condition is a normal result. Tests tend not to identify abnormalities. Some of the abnormalities have come from chromosome analysis and some have come from sperm count. Usually, when one does a blood count and looks at the red and white cells and at all the electrolytes and things in the blood, liver function tests all come back normal. It is an area of low

yield. That is because the effect that is happening is not specific. It is not as though it is targeting the liver or the kidneys. If it were, one would find results that would indicate poor renal function or poor liver function. That is not what is happening. Tests should be done because all the patients deserve to have an appropriate medical screen. We also want to know that something else is not going on such as an unrelated problem or a problem in a specific organ, which can produce particular abnormal tests.

Hon FRANK HOUGH: Did Alcoa take any notice of your original submission that you gave to the Australian Manufacturing Workers Union? Did you get any feedback at all?

Dr Harper: I had a meeting with the management and workers from Alcoa at Alcoa in 1996 or 1997. I was asked to talk about these chemical problems. I was invited there and I was taken over the whole work plant and shown everything. I was given an open invitation to do that. I do not know of any subsequent action that came from that meeting.

Hon FRANK HOUGH: Alcoa appears not to have addressed anything that you suggested.

Dr Harper: I cannot say that I was standing there before those people giving them advice on what to do; that was not the case. I was asked to talk about the nature of the medical problem, which I did. As I mentioned earlier, I have labelled this as a public health problem in writing to two specific recipients. I may have said to people at Alcoa that it is a public health problem, but I cannot recall that.

Hon KATE DOUST: Did the people who came to see you with health problems seem to have any awareness of the types of chemicals they were being exposed to? Had they been given any information by their employer about the hazards they were working with? Did anyone say, "I have been provided with some training by my employer. I am aware that I might be working with aluminium oxide or toluene or whatever"?

Dr Harper: These people are tradesmen and they are aware of the substances they work with. They know what the processes are at Alcoa. They are familiar with all those known chemicals that are used in the process.

[12.15 pm]

They had no special understanding or knowledge about this unknown mixture that we are all worried about.

Hon KATE DOUST: Was there any discussion about the provision of personal protective equipment? I am aware that in most of those workplaces people wear helmets and perhaps goggles.

Dr Harper: With regard to chemicals?

Hon KATE DOUST: Yes.

Dr Harper: My recollection is that there has been nothing different. They have had their normal protective gear such as helmets, boots, etc under routine circumstances. Nothing changed during the 1990s, particularly around 1996.

Hon KATE DOUST: I suppose I am talking about respiratory protective equipment.

Dr Harper: To my knowledge, no. I am not prepared to precisely answer your question, I am sorry.

The CHAIRMAN: Thank you very much for coming in and providing all that useful information to the inquiry.

Proceedings suspended from 12.15 to 1.15 pm