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# TRANSCRIPT OF PROCEEDINGS

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ROYAL COMMISSION INTO BRITISH

NUCLEAR TESTS IN AUSTRALIA

MR JUSTICE J.R. McCLELLAND, President  
MRS J. FITCH, Commissioner  
DR W.J. JONAS, Commissioner

TRANSCRIPT OF PROCEEDINGS

AT SYDNEY ON THURSDAY, 15 NOVEMBER 1984, AT 10.08 AM

Continued from 14.11.84

Secretary to the Commission

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MR McCLELLAN: Mr Turner was being cross-examined by Mr Eames.

THE PRESIDENT: Yes. Yes, Mr Eames?

OLIVER HARRY TURNER:

MR EAMES: Thank you, your Honour.

Mr Turner, could I just start by briefly going back to a document we referred to yesterday, which was the report on the kangaroo patrol dated 31 May 1957. There is just one sentence I wanted you to help us with if you can. At the conclusion of the paragraph which I read to you, you said:

It is quite possible that with the recent  
. . . . . that maybe prejudicial  
etcetera.

Can you recall now what you were referring to as the recent publicity given to natives in the Warburton/Rawlinson area?---No.

Do you recall at this time in 1957 whether there had been any rumours or suggestions coming forward that aboriginal people might have been moving into the range area?  
---The only - I get a connection between the Warburton/Rawlinson area is with the Giles met station. Whether it has got anything to do with that, I do not know.

That had been the subject - Giles met station had been the subject of some debate, had it not, about whether it was appropriate that it be located there, given aboriginal interest in the area?---Well, shall I say something about that?

Well, do you just recall - - -?---I recall going there and talking to the - MacCauley there - does that mean anything?

Yes, Mr MacCauley was the name of the patrol officer?---Yes, and he told me that the arrangement was that they tried to keep the aborigines in the - near the rock hole there, near the soak, and they had the people out about three miles and they tried to keep them separate, but the natives kept coming in because they were inquisitive naturally, and although they endeavoured to keep them separate, eventually there is an inter-reaction.

Yes, he was concerned, I think, about the impact on aboriginal people who were living too close to Giles itself?  
---Yes, and this did have - it had an impact despite all their precautions.

That had received some publicity in parliament and in the media, is that so?---I do not know. I just remember what MacCauley told me when I went up there.

All right, if I can take you now to another area. Did you find, on any occasions, that you were being placed in an awkward position being an Australian representative for health physics, but answerable to AWRE; did you find on any occasions that there was some conflict in your own mind between the responsibilities to the AWRE and your responsibilities to Australian authorities?---No, I did not, because the responsibilities to AWRE were scientific. They left me with a list of things they would like to have done if they could, like follow the decay and all this sort of thing, and that was fairly clearcut. Anything that affected range personnel, I was more or less - I was obligated to tell the Australians, but if I told the UK at the same time, it was with a view to them to do something about it because they had the purse-strings.

I think you said that there was no formal arrangement laid out as to who you would report to from the Australian side if there was a matter of concern to you, is that right?  
---Not really. Probably the most specific statement I remember was from Don Stephens who said do not forget to let him know of anything. He was a member of the safety committee, he was also head of CXRL, and mostly I would write to Joe Richardson to let him tell Don Stephens, but Don made sure that he wanted to be in on it, not to write to, say, Titterton independently of Don Stephens.

Did you have any formal communication links with the AWTSC?  
---When you say formal, what does that mean?

Well, in the sense that they would give any formal reports to you as to what was going on?---No. I think - no, the UK did that. I am trying to be as careful as I can and I just trying to think if there was an instance where - because occasionally I would see the people, because I used to go to Melbourne periodically, but I do not, offhand anyway, remember anything in specific they asked me to do which was not something asked by the UK.

Do you think the arrangements that were established, as it seems, by practice were adequate arrangements from your point of view to ensure that an item of concern, that is concern to you, would get to the appropriate Australian person who could do something about it?

---Well, my two main - well, two main contacts who I would have for things would be the range commander, who would handle, through his channels, the military and so forth, board of management, I would go through CXRL from their side. I would also go the atomic weapons test safety committee. I also would occasionally go to the UK headquarters at Salisbury, and connect up with somebody there. That is mainly for sending equipment up or something of that nature.

But if you had an item of concern, would it not be important to you that there was a machinery in place, which could guarantee you that your concern had been acted upon, or at least, dealt with?---Well, the ultimate one was the atomic weapons test safety committee.

Well, did that mean that if you did have any items of concern, it did not necessarily follow that you would be told what happened with your concerns?---No. You are asking me to try and cast my mind over an 8 year period in a flash.

I appreciate that. Putting it in general terms, if it is too difficult, say so, but what I am asking you is whether the arrangements that existed, from your point of view, had some loopholes in them?---If I did not get a response in one direction, I would try in another, or repeat the response, so I would not let things go, if I was wanting something.

Did that happen on very many occasions where you made a report to one or other of these people that you referred to, and you got no response, so you had to try a different channel?---I cannot think of any, but it is a situation which I imagine could have happened, but I cannot think of any.

You mentioned an incident in your evidence yesterday where a range commander - and I do not think it was Colonel Durrant - actually approached the minor trial sites? ---Yes.

Attempting to force the issue, as it were, by striding onto the trial site unsuccessfully. Who was that person? ---I do not know but I would say it was the 61-63 period, maybe 61-62.

You were present at the time, were you?---No, no, he told me afterwards.

Did he explain to you why it was that he took that action?---Well, he had an attitude which I felt was very reasonable - is that as range commander, he considered that he ought to know what occurred on a range. It is his

responsibility to look after the range, and anything that went on was his responsibility, he considered, so therefore he wanted to know what was going on in this particular place. This is Vixen A, and so he went along to have a look, and the man in charge at the time said he could not. Well, he could not do much about it, but he wrote, as I recall the story, he wrote to either Adelaide or Melbourne pointing this out, and was a little disheartened to get a reply and sorry, that is the situation.

You do not know with whom he corresponded; who would be expected - - -?---Well, I should imagine it was the board of management.

Yes, and as you understand it, he was rebuffed and told that that was an appropriate response which he had received?  
---Yes.

The test commander was not permitted to go onto Australian soil to check what the British were doing in the minor trials?---That is right, yes.

Well, at the time that he told you that, you would have still at that time have been the Australian health physics representative of the AWRE, did it concern you that that situation existed?---I already knew it; it was clear from the beginning.

Well, from the beginning did it concern you that that was the position?---Yes, well, you just try and put it into proper context. It concerned me but it was completely understandable. I could appreciate their point.

In what way?---Well, it is a matter of security. Now if you like I can give you, you know, quite a run down on the whole thing, but it will take time.

Well, perhaps if you try answering the questions and if I am going off the track I am sure you can let me know, but you say it was a matter of security, by security do you mean the need to know principle?---Well, more than that it is a case of nationals.

A case of - - -?---Nationals.

I am sorry, could you explain that?---Well, I was an Australian and not a UK person.

Well, in what way did you see that as being a deterrent?  
---Well, as I said I can explain it to you if you would like to hear it.

Yes?---It is to do with the international agreements. - - -

Yes, all right?--- - - - between America and England.

In what way did that affect it?---Well, following Manhattan project, there was a certain paranoia in the American community, which resulted in the McMahon Act, the McMahon Act of 1947 which prevented any other country, anyone at all, from learning anything about nuclear weapons or the design or anything to do with them with a capital punishment attached; there were very few things they had capital punishment to it.

It was something that arose as a result of the Klaus Fuchs spy scandals and so forth?---Well, it was actually raised before that, but that put the lid on things, and then in Australia we had Mr Sharkey of one of the unions revealing that communists were prevalent in Australian unions, and this meant that as a result of that, the Americans communicated with the English to say, not only are we not going to co-operate with you very much, but if you deal with the Australians, you have got no chance. So as a result of that our

programme which was established at the end of 1948 to establish Woomera, was interfered with by the fact that information which was about to be exchanged could not be exchanged. So this developed on through the years as a very sore point. Now there came a time when Maralinga was being formed that the UK were getting to the point where they wanted to re-establish contact with the US.

Yes?---However, they had to be very careful with their contacts, so the security for this was ultra-rigid in a sense that they had to make sure the Americans would not feel that the Australians were learning anything that would help them to make a nuclear weapon, so the division of responsibility was clearly marked.

Is another way of putting it this: that the paranoia that you have described of the Americans extended to the British about the Australians learning anything about the test which they were conducting?---That is right.

And you thought that was fair enough?---Well, I am not here to argue; I understood that the political, well, I suppose it is political, military or whatever it is, concern of the - because already there was enough - Fuchs and others involved - and the Soviets were obviously gaining some information, and there is the beginning of the - France was already going on their own and so forth, there was already enough indication that countries were interested in gaining information or to have their own programme.

Did you appreciate that the implications of that were that the Australian range commander for the nuclear programme at Maralinga was not to be trusted?---It is not a case of not being trusted, he was an Australian and had to be excluded from - - -

THE PRESIDENT: In his own country?---I know, it is wrong from that point of view.

That is what you are being asked, if you think it was all right? ---No, not from the point of view of nationalism, no, but what I am trying to is, I did not say it was all right, but I understood something about these reservations; there was some degree of rationale to it. It ended with the 1958 Bermuda Agreement when they traded - they got into the act, but from 1958 on the British were still ultra-sensitive about in case the exchange - when I say it ended, the disruption between the two countries ended in 58, but the new arrangement the UK and US had could have been disrupted if it was found that another nation, eg Australia, was gaining information out of the British endeavours.

MR EAMES: You were still in the same role were you not when the Vixen B tests were to be conducted in 61 I think,



and the Vixen B tests do you recall were the cause of a great deal of political nervousness?---Mmm.

You will have to say yes, it goes on the transcript?---Yes, yes.

You are allowed to say no, too, but I am sure you are not?  
---All right.

That political nervousness was over the very issue of what exactly were the British going to be doing in Vixen B, is that not so?---That is right, Mmm.

And the particular concern about it was that there had been the negotiations for the non-proliferation treaty?---That is right.

And it was being suggested, was it not, that what the British might be doing for Vixen B was in fact a covert way of breaching that agreement?---Yes.

Yes. And are you saying that the situation then was and remained to be the case during Vixen B that still no Australian was permitted to go onto the range to find out exactly what they did do?---Onto the site.

Onto the site, to find out exactly what they were doing?---Mmm.

Yes?---Yes.

Did you find that an unsatisfactory situation?---Well, yes, of course, well, it is unsatisfactory in the sense that I am handed over a contaminated area over which I had no control how it was contaminated.

Well, during the period of those minor trials, correct me if I am wrong, was the situation this: that there was not a single Australian, to your knowledge, who had any involvement in checking to see what exactly the British were doing at the time?---To my awareness, that is so.

And as you now know as a result of the minor trials there were liberal quantities of plutonium spread all over the place?---Yes.

Yes. And that all came as a bit of shock, did it not, to the health physics representative?---I knew that would happen, but I - - -

You had no idea of the size?---I did not know where it was going to be or what the distribution would be and so forth.

And were you not shocked when you found just how great the distribution of plutonium was?---I am not too sure

whether it comes into shocked - concerned, yes.

Concerned. And you had been concerned on a previous occasion, had you not, that the British had conducted Tadge apparently telling only Sir Ernest Titterton about cobalt and not telling you?--Yes.

To use the colloquialism, did you get the feeling on occasions, Mr Turner, that you were being snowed?---No, being snowed is entirely a different situation. I was told what they were going to do at Vixen B, with the plutonium, the purpose of it, and the general procedures. For Vixen B1 they used steel plates and then covered them up with earth, and with the Vixen B2 or 3, or both, they used - had pits that they - they are details, but I knew, you know, something about it beforehand, and I knew that they were safety experiments, and I knew also that there was the possibility of the yield being greater than they anticipated, and on account of that they had to take extra precautions, but it was not intended to be - the definition of it was that if the fission product activity exceeded the fissile activity it became a nuclear explosion. If the fissile activity was less than - if the fission product was less than the fissile activity - it was a non-nuclear explosion, that was the definition.

Yes, and how was it to be determined into which category any of the tests had fallen, was that to be something which was determined by the British and advised to the Australians?---Yes. Peter Wood was the man on the job.

Was he on the job or was he at the end of a post box?---No, he was there.

Yes, but was he being told what had happened rather than having any involvement himself to know?---Well, he used to measure it; he used to go out and measure the size.

So you were satisfied that measurements would give you the answer to that question?---Oh yes.

And tell me, when the range commander spoke to you about his attempts to stride onto the test site, did you try to discourage him from pursuing his complaints about that situation?---No.

Did you encourage him?---I did not know about it until he told me.

How long afterward was it that he told you?---Oh, I do not know. I just do not know. It was certainly after he had been - - -

Sorry, you might have misunderstood my question. When he told you that what he had attempted to do. I was not suggesting that you were there at the time, but when he told you that is what he had attempted to do, did you discourage him from pursuing his complaint? ---Oh, no, no.

THE PRESIDENT: When did this incident occur?

MR EAMES: Yes. Can you recall what year this was?---Well, all I remember it is Vixen A, and therefore it needs to be a time when Vixen A was operating, but I do not know which year.

If Vixen A was 1960?---That was the first one.

You cannot recall the name of the range commander, is that right?---No, no.

It is certainly not Durrant, though?---Oh, no, he had gone by 58.

The Vixen A trials, according to the Simmons report, ran from May to August in 1960?---Yes, that is the - that would be the first of Vixen A. There was a series of Vixen As. 60 was the first one. I think that 61 was one or 62.

Do you think it might have been a later series of Vixen A? ---Well, it could have been, I just do not remember.

Well, do you recall how long after the range commander had made his attempt to get on to the test site that he advised you of his attempts?---I would imagine it would be either days or weeks.

But it was certainly fairly contemporaneous?---Oh, yes.

And, tell me, did you hear any more about that? Did you receive any communications from the safety committee or - - -? ---No.

Was it a matter of much discussion or generate any excitement at the range, this effort by the range commander? ---Well, I mean it was probably a fairly new range commander who was sort of testing the ground.

Did he stay long?---Everyone had their normal turn.

Sorry?

THE PRESIDENT: Unindoctrinated.

THE WITNESS: And previous range commanders would have appreciated the point. We appreciated the situation. He was just finding out, that is all.

THE PRESIDENT: The hard way.

MR EAMES: Yes, indeed.

Well, can I take you now to the incident which has been described as the Pom Pom incident and just before I ask you about the incident itself, could I ask you this? Do I understand the situation to have been that, as you have said, you fully understood the reasons for the secrecy about the tests, and I take it from what you were saying, you appreciated the international political context into which these tests fell? In other words that there was apparently communists who had penetrated the British - - -?---That affected us directly. We were in Salisbury waiting to go to the UK - this is not associated with Maralinga, it is associated with Woomera.

Yes?---And we were delayed for six months while they sorted out the problems and so we had a direct input to that particular difficulty.

That was which particular difficulty?---The fact that the UK could not accept - in fact, we were not able to go to government establishments for two years. We went to universities instead.

I am sorry, I am not sure if I totally understand that. You could not go to government establishments?---In the UK.

In the UK, I see?---You see, the intention was, in order to get Woomera off the ground, they were going to have a number of key people training in key areas like rocket propulsion, guided systems and so forth; and they were all going to go to government establishments who were working on missiles and, with the embargo, it meant that we could not go to those government establishments. So the alternative found, after six months thinking, was to go to universities instead.

Yes, well, you understood that that embargo which stopped you from going to the British government establishments was as a result of the American request to the British that the Australians not be involved?---Yes.

And, now, in the context of times in 1956/57, I suppose you appreciated that it was a very important thing internationally that this test programme proceeded and proceeded effectively?---I do not know if I took on such responsibilities on my shoulders there. No, I - - -

Well, did you take a reverse responsibility? Did you have a view that there was a bit of hysteria about all of this and it was more important to be careful than to be completed in the tests?---My guiding thoughts in that direction, and have been since, is to have the facts, and if there is anything that is based upon the wrong facts, I would like to see that the true facts are revealed. So, in terms of rumours and that, it just is natural - I think it is a scientific attitude - is that I prefer that it be looked into and the facts established.

Well, if that was the guiding principle, it put you at a singular disadvantage because the facts, which you found out with the cobalt incident, depended entirely on the good faith of the British giving them to you? ---Yes - probably one reason why I felt a little bit put out - - -

Is put out the word for it? I said to you before that you might have been snowed. Was not it the situation that you thought the principal concern from someone in your point of view was to be sure that you were getting the facts, and is not the situation that you knew that you may have been getting selected facts?---Was not getting anything in that case - - -

THE PRESIDENT: I think blindfolded is a more adequate word that snowed in this case.

MR EAMES: Yes.

Look, that is the situation, is not it, that you were effectively blindfolded?---Yes, yes.

So you were a total beggar at the British table, as it were? ---This is getting a little bit exaggerated.

Well, is not it the situation?---Well, taking your point in the way that I think it ought to be looked at, is I was reliant entirely upon what they told me. Is that what you mean?

Yes?---Yes.

And they had misled you on at least one occasion?---They did not mislead me, they just did not pass the information on. Unless they expected Titterton to do it, I do not know.

Yes. All right, well, it has come to the incident known as Pom Pom, and perhaps if the witness could see RC17.

THE PRESIDENT: Was it your impression, Mr Turner, that Titterton was treated as an honorary Englishman? ---Absolutely. If I could make a comment there - - -

MR EAMES: I think he was, in fact, English, was not he?---I think he was English, yes. I knew him in England beforehand.

THE PRESIDENT: But he was an Australian citizen?---An Australian citizen. At one stage I saw a document whereby he was, in effect - I cannot paraphrase it - regarded as the Australian government.

By the English?---Yes.

Perhaps he took that to heart?---He may have.

MR EAMES: Would look at the document in front of you?---Yes.

The one dated 18 May 1957?---Yes.

Now, as you said the other day this was the report that you wrote to the then range commander - - -?---Yes.

- - - who would have been Mr Durrant ?---Yes.

Now, attached to that you will see reports dated the 15th - or one is dated 15 May 1957 from Sergeant Smith?---Yes.

And another one is just dated May 1957, addressed to you, also from Sergeant Smith.

Do you see those?---They look to me as though they are virtually the same thing.

Well, that is what I wish to ask you questions about. You will notice that they appear to be almost the same, except that the one which is just dated May of 1957 has a number of crossings out?---I have not seen this before, by the way.

No, well take you time, have a look at it. You will notice that it is addressed to you?---It has got health physics adviser.

It is addressed Mr Turner, Health Physics Adviser,  
Maralinga?---Is it, I cannot see it - I see.  
That is strange.

"Copy to security officer", who would the security officer  
have been at that time?---I think Alan Flannery.

You will notice, as I said, that the two documents are  
slightly different in that the one dated May 1957  
had more in it, some of which has been crossed  
out?---Yes,

And you will see on the one dated 15 May 1957 the date 15  
appears to have been added in ink?---Sorry, I  
have not got that part - - -

Well if you look at the top of the page it is the one dated  
15 May?---My copy has missed that.

I am sorry, it is cut off. Just take a seat; I will show  
you?---Yes, all right.

Do you notice that?---Yes.

Do you recall receiving either of those documents prior to  
you writing your report?---I do not, no, actually,  
I do not. Not at this stage. But I am learning  
that my memory is so inaccurate that anything  
could happen.

All right; well if you look at the one just dated May 1957,  
could you tell me, firstly, do you recognize any  
of the handwriting where changes are made to it?  
---Well all I can say, it is not mine, other than  
that.

It is not yours; do you recognize whose it is?---Hang on,  
it looks to me that, "of the 300 milli-R", that  
looks as though - that could be me. Yes, the  
bottom part could be me too.

You will see it appears to say, or appeared to originally  
say, "campsite monitoring", looks like, "beta  
gamma 115 counts per second at ground", and over  
the top of that is written, "probably of 300  
millirems", is it?---It looks like it, does not  
it?

And you think that is your handwriting, do you?---It has  
an approximation to it, yes, but I cannot make  
sense of that.

It goes on, "40 to 50 gamma counts per second at ground"  
- is it "gamma"?---Yes, gamma cps yes,  
at ground.

"To receive the weekly permissible dose a person must remain in the vicinity" - - -?---Hang on, I see what that dose - that has a little circumflex thing there and that 300 milli-R belongs to that, so it is a permissible dose of 30 milli-R.

Right. So it should read, "40 to 50 gamma counts per second at ground to receive the weekly permissible dose of 300 millirem" - - -?---Millirem, yes.

- - - "a person must remain in the vicinity of the" - - -? ---I cannot read that.

No, I cannot read it either: "of the counts per second for" and then it is written in, "approximately 600 to 800 hours"?---Yes, they have got - instead of 182.6, it sounds like a calculator, does not it.

Just at a glance, the approximately 600/800 hours looks a similar hand - - -?---Yes, I think that is mine. It is a little different from what it is today but it is near enough.

So does that help you in your memory? Do you recall - - -?---No, I do not recall it; I would have to work it out now and see what it is all about. It looks to me as though what I am saying is that the weekly permissible gauge is 300 milli - in those days they talked about milli-R - and that in order to gain that dose of 300 milli-R you would have to stay in that camp - and I am giving the 600 to 800 hours based upon the 40 to 50, I presume.

If you look further up the page you will see, under a reading for the hair count for the son, what was originally typed in there was "5 to 7 counts", and that is crossed out and there is a figure in handwriting alongside that, "15"?---Yes. Well if you notice that in the remarks it says, "counts of 15 were found on the son, right side of head" and so forth, and that has been crossed out and transferred over to there, so instead of saying, 5 to 7 for their hair - what I think Frank Smith was saying, there was 5 to 7 in general but there was one patch that was 15. I apparently have made the hair in general 15 and not bothered about trying to differentiate between patches.

Yes, but if you look at the next document, the one that is dated 15 May 1957, you will see that - - -?---It remained the same.

- - - it remained the same, so it came out as 5 to 7 counts for the hair?---Yes, well this - I do not know the



history of these things but maybe that is the copy that went to the security officer, and the other one may have come to me and I may have made some modifications to it. So I have upgraded the hair count on the son to 15 in order to not have to read the fine print, as it were - as the saying might be - and recalculated Frank's calculation as to what the period of time you would have to have on site in order to get a weekly dose. So I think that is what has happened. So that is probably my copy and the other one untouched is the - might be the security officer's copy and then I must have written to the range commander on the basis of the information that was supplied to me.

Well let me ask you: did you have any discussions with Frank Smith before his report was finally submitted, to you?---I would not have a clue, I do not know. Naturally I spoke to him at the caravans, at some later stage that evening - can you enlighten me about that rabbit thing? How much was that interfering in the - the kangaroo thing?

I think the report showed that you left for the kangaroos, I think it was, on the following day?---The following day, was it? It must have been quite hectic.

Yes, on 15 May and this incident was on the 14th?---In that case - when did I get back?

MR McINTYRE: The report of the range commander was dated 18 May, so that might assist him.

MR EAMES: Sorry, the report of which?

MR McINTYRE: The report by Mr Turner to the range commander.

MR EAMES: Yes, your report that you will see there, the front report - - -?---Yes. That was written on the 18th, so I must have been back by that time, but did I come back before that time or - if I came back on the same day, you get back at lunch time, so maybe Frank Smith gave me that report sort of as I got off the aircraft, I made a few pencilled comments on it and then wrote another one to the range commander that same day. I do not know. I have not any - - -

I cannot answer that question for you, I am afraid, from this document. Before you came to write your report on 18 May - now if you cannot remember, say so - do you recall what steps you took to gain information about the Pom Pom incident? That

is, what people you spoke to, what reports you called for, what reports you received?---As I recall, I had a verbal explanation at some later stage - I cannot remember how much later but I presume not too later - of the consequences as found out at Yalata, and I think I put that in my transcript somewhere, that the story I got was that these people had killed a beast and were in the desert for some years and then came down what we call the Tobacco track.

Can I show you a couple more documents, firstly dated 16 May 1957, addressed to the range commander, signed by Mr White, the acting security officer.

This document, your Honour, is one in that secret file of the DAA files, but I am afraid I still have not got the number.

Would you look at that document, please?---Yes.

Do you recognize that?---No, no.

Well just take your time and read it. You will notice as you are reading it, Mr Turner, that that is a document from the acting security officer, addressed to the range commander, which sets out details of the Pom Pom incident, including the ages and so forth of the people who were found?---Yes.

It refers to you as having taken photographs at the time and to the aboriginals who were transferred to Yalata, or Tallowan as it is called?---No, I have never heard Tallowan mentioned before. They say that is the colonial homestead section - that is where they kept the sheep.

Yes. If you look over the page you will see it provides there a lengthy description of where these people had come from, suggesting that they had come from Ernabella mission, following a rock hole route?---Yes, well they had to follow the rock hole route.

And they had been living off kangaroos and rabbits?---Yes.

Had you seen that report?---No.

You are positive about that, are you?---Yes, yes. It might have been Bert White that gave me a verbal on it, I do not know. I do not know who did.

That is a dangerous word in New South Wales, is not it?  
---Yes it is, is not it? Probably that is why  
I said it, I have probably heard it and been  
hearing it. There is no mention about him  
killing a beast but maybe it might have been  
added or else it might have been withheld, I do  
not know. It is interesting.

I will show you this other one. I am afraid it is in  
technicolour, but it appears to be a report from  
Mr Murray?---Yes, I know him.

Dated 16 May 57, addressed to the deputy superintending  
peace officer. Have a look at that one please,  
it is also from the same file?---Yes, thank you.

If I could just have that back. Have you seen that one  
before?---No, no. There would be very little  
interchange of security type documents with us.

In that report, Mr Murray recorded on 16 May that:

At about 10 am on 14 May 1957  
I received a message that a  
party of natives had been  
noticed at Pom Pom. I proceeded  
to Pom Pom and found the party  
at the health physics caravan  
being tested by Mr Turner of the  
health physics department - - -

?---Well, the testing is just in - - -

Just a moment, let me finish:

Being tested by Mr Turner of the  
health physics department. Mr Turner  
stated that the natives were free of  
contamination.

Now, has he got that right?---Well, I probably did  
say - if I was told that they had hardly anything  
on them below 15 counts - you must remember there  
is a background of about five there - so when it  
reached 15, it is actually a net of 10. Now, we  
do not consider anything is contaminated until we  
get to 15. So, at no point did we reach a level  
which we could call contaminated. But, as I pointed  
out you never like to have any radioactivity present,  
you like to get rid of the lot if it is possible  
and that is why we try to decon - well, wash them.

Did you test these people?---No, I never monitored them, no.  
It was done before I got there.

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3073

O.H. TURNER

How long were you there in their presence?---I do not know, maybe half an hour. I do not know.

How many showers did they have?---To my knowledge, one each. But I did not watch - I watched the boy being showered, that is all. I do not know about the others but I would imagine - - -

We have been told they had something like four or five showers?---I do not believe that.

We have been told repeatedly that they had four or five showers?---Maybe, but I cannot - maybe they sort of dipped their head in four or five times, I do not know.

But were not you in charge of the situation?---Well, if you are in charge you cannot be everywhere, can you?

But you only had to be at one place did not you?---No, the showers were in the caravan, the other people were outside, and you know, there is not a single place.

How many showers were there?---One.

And are you saying that as the showering was taking place, the aboriginal people were going in individually and the other ones were waiting outside?---Yes. In general, as far as I can gather - I had not remembered this - but apparently if the father washed the daughter then obviously two were inside. But generally speaking - the caravan was not very big.

Did the mother have the daughter with her when she went to the shower?---She did when I - I do not know about the caravan in the showering, all I know is from the photographs. She had the daughter with her in the photographs.

Were you going to say "she did when I saw her"?---Yes, but I never saw them in the caravan, those two. There is not enough room, you see, if a person - - -

Just leaving the question of room aside for a moment. I just want to get it clear. Are you saying that whilst this incident was taking place, apart from the showering of the boy, you remained outside the caravan?---I do not know, probably, possibly, I have no idea. I was obviously outside when I took the photographs and it is the only bit of evidence I have.

But, Mr Turner, why would you not have been personally involved in supervising all that was being done?---Well, the people who were doing it were accustomed to it. I

am not accustomed to doing that sort of thing. But the people who were doing it, they are the ones who were accustomed to it. I have never washed anybody.

Is that what they were doing?---Well, with the boy, yes, I mean the boy cannot wash himself.

They were forcibly washing them, were not they?---No. No, there is no force involved, of course not. Look, as far as I can gather, the woman only had her hair washed, and the reason why only her hair was washed was because we did not like to push the situation; and if anyone else had said they did not want to or showed they did not want to, they would not be washed. The washing was only there as a kind of service to them. If they did not want it well - - -

Do you say there was no reticence or hostility being shown by the aboriginal man in particular, about the showers?---Not that I could see, no, definitely not.

No-one being prodded with a spear?---Who is going to prod - I mean the spears were outside on the ground, and I do not think anyone touched them.

Was the boy prodded with a spear?---No.

By his father?---As far as I can recall, the boy just went into the shower, I do not remember any, there was never - I mean why would you want to force them? What was the point of forcing anyone? There was not enough contamination to cause trouble so why bother?

Why not just drive them home?---It could have been that, that was under discussion. Should we do it or should we not do it, and I thought it would be wiser, if they were happy about it, to have a shower. It just seemed to be a kind thing to do.

Kind or wise?---Bit of both.

What did the wisdom relate to?---In my sort of memory of things, I remembered that the Marshallese had a - a U.S. test had fallout on them and did not do anything about it; and nobody knew that they were because they were some distance away. Sometime later when they were discovered, they found that the part of them which was most affected was their hair. Now, this was largely due, I believe, according to the report, that it was due to the fact that they had coconut oil - they used it for the hair - and it stuck to it. But what was on their body just came off, but what was on their

hair stayed and as there was a small amount on their hair, I thought, well, why not?

Tell me, you said the other people at the caravan were used to this sort of thing where you were not. Had you had any previous instance of people totally unprotected, not wearing any protective clothes who had gone through the unit after crossing contaminated areas?---Actually not.

This was, from your recollection, one only occasion in the whole of the time that the range was operating where aboriginal people moved onto the contaminated area, was it?---Yes.

In terms of your job, Mr Turner, this was the most spectacular event that occurred in the whole time you were there, was it?---No, the most spectacular event was the detonations of the bombs.

All right, the aboriginal people, were they a close second? ---I am not sure what you have in mind when you say spectacular, it was unusual.

It had very serious implications, did not it, this incident? ---Very serious?

Could it not have stopped the test programme if this had leaked out to the public?---It certainly never occurred to me that it could. It just did not cross my mind, why should it?

Do you say that seriously?---Absolutely.

That it did not cross your mind what the impact of a disclosure of this information would have been?---I was simply faced with four people who had come through a contaminated area. There was a reading on the hair of one and it was a case of now before we pass them on to the next lot of people, do we shower them or do we not shower them.

So you thought it was a relatively minor incident, did you? ---No, I would not say it was a minor incident, but I did not start cogitating the import and the implications that it might be at an international level or anything like that.

You see, Mr Durrant, the range commander apparently thought it so minor that we have been told he lined all the men up and threatened that they would be shot - - -?---Well - - -

Let me finish. That they would be shot if anyone of them said anything about this episode, do you recall that?---Well, it could be, I mean, his responsibilities as in charge of the range was different to my responsibilities - was to ensure that people were not contaminated - that was my responsibility. I have not got the responsibility of running the range or doing anything, if they closed the range down it would not mean anything to me, I would have just gone home earlier.

It really would not have mattered to you if that had happened?  
---Why should it?

It was your whole life, was not it, Mr Turner?---It was just an episode, it just went on year by year and I went there for - at that stage, I was still six months - I was going to be relieved after Antler.

But it was the most important thing that you had ever been involved in?---Why should it be?

Well, was not it?---What running - in Maralinga?

Yes?---The research work I did before was pretty important.

But this was of national importance, the role that you were playing at Maralinga, was not it?---I had never thought of it in that light.

Was not that so?---Why would you call it national importance?

You thought the whole project was of national importance?  
---Ah, well, yes, for my part - I was only a caretaker between trials.

Well, let us have a look at your report of 18 May of 1957. Now, yesterday you had with you records of counts, dose rates and so forth, do you have any records that would now show what the reading was in the Marcoo crater in May of 1957?---No, we never surveyed in an official capacity. I can remember that the first party that went down there was, I think, on day two or day three, I was not there at the time I was still up at Emu.

Well, let me take you to - - -?---And I think it was five R per hour when they first went in, something like that or three R per hour.

Let me take you to the fifth paragraph, starting:

It was found that the family group had camped . . . . .  
. . . . they would not have crossed any crater area.

Can I ask you, why did you specifically refer to the fact that they would not have crossed the crater area?---Because the crater was in the general vicinity.

But had anyone suggested they might have crossed the crater area?---No, not all. The crater is - and from there the direction they came is sort of - if you are looking northwards they are coming from the left-hand section, and the crater is over on the right-hand section, but it was - you know, it was not far away.

If they had crossed the crater area, would that have made the situation very serious?---No, well, not very serious but it would have been a different situation because the kind of fall-out there was of different nature.

Yes, well, what was the nature of the fallout in May of 1957 in the Marcoo crater, in or - - -?---Oh, in the crater, that is all induced activity down the crater. There is no fall-out there at all.

All right, what would be the nature of the radioactive hazards at the Marcoo crater at that time?---Gamma.

Well, how serious would they have been? Would you have allowed any of your men to go there without a suit?---Well, nobody is allowed in the area in - I mean, the whole areas you have to be suited up. In actual fact, if you came down by a helicopter type of approach, yes, you could.

Yes, what if he stopped on the side, on the outer slope of the Marcoo crater, without a suit, would you be bothered about that?---Yes.

Why would you be bothered about that?---Well, it would depend on where it is, but if you go north, if you go on the north side of the crater then after two hundred feet, something like that, you run into the fall-out.

And for that - for a person who was unprotected by any protective clothing, that could have quite serious implications for their health, could it not?---Possibly, they would have been more contaminated than what they were, that is for sure.

Well, precisely, but if they - - -?---But it depends how much - you have got to take it in quantitative and not qualitative. Before - because something gets more, it does not necessarily mean it is so much more that it becomes a real hazard, they may have been doubled or trebled or ten times, but to get to the point of being a hazard, might require 1000 times, or 10,000 times.



If they had slept, these people had slept overnight either on or on the rim of the Marcoo crater, you would be staggered to get findings on five to seven counts the next day, would not you?---I would imagine so, yes.

Tell me, after the people showered and you do not recall, you have told us, whether it was more than one occasion, is that right?---As far as I know it was one but I had no memory of it, no.

Yes, well, even assuming one, why was there no count, or why was there no check taken after they had showered as to what their reading was then?---Well, first of all I do not know there was not.

Well - - -?---It could well have been.

Would you look at the report of Mr Smith of 15 May, either one of them. Where he says just before the words, "camp site observer" - - -?---I know, after - - -

It reads: No after-monitoring was carried out by myself at the caravan.

?---Yes.

Now, was it carried out by anyone to your knowledge?---I do not know.

It would be recorded, would not it, if it had been?---Well, it would only get recorded if they wrote a report.

Well, it would be recorded as nil, would not it?---Not necessarily. I mean if a person - when a person is checked, which is done to literally thousands of people, when they are checked nil, you do not write nil at any stage.

Well, are you suggesting at all that there was any after-monitoring of these people?---I do not know, I have not any idea.

If there had been no after-monitoring, would not that be an extraordinary departure from practice?---Well, I can only assume that because it was so slight in the first place, I mean there was a suggestion, should we bother at all, or not even bother doing this because it could be seen it could be a bit of a difficulty to sort of get people into a shower recess.

Could I just stop you there?---They could have been let go altogether and by having been washed and - if you did monitor them, what would you do then, if you did find someone, are you going to wash them again and so forth.

Well, is not that exactly what the procedures were at the health physics caravans; precisely that?---Yes.

Yes?---Yes.

Well, could you explain what you mean by saying why would you do that, would you wash them again?---Well, I mean when an ordinary - like when an entrant goes to a shower to wash, they wash themselves, they know what they are doing and they just do it. Now, in this case, you have got to do it for the person. It is, you know, not something that you would do for the fun of it.

Well, you were not doing it for the fun of it, were you, you were doing it because you thought it was the wise thing to do?---Well, yes, just because if a person has got some contamination, the usual thing is you wash them - you wash it out.

Right, and so you were doing it because whatever the readings may have been on these people on whatever parts of their bodies, there was sufficient contamination for you to be concerned enough to require showering?---Well, technically no, there was not sufficient, technically.

Yes. Well, tell me, did that come as a surprise to you?---As a surprise what?

That there was so little contamination on these people. Here you were all of your crew had been marching around in full suits between trials and here were a group of aboriginal people with almost no clothing at all, who had apparently slept in the area with almost no reading; did that come as a surprise?---Look, I have said repeatedly at these hearings, that with B type fall-out it is very difficult to get any B type fall-out to stick to you.

Well, the crater at Marcoo and the areas round it had the ash type result too, did not they?---Yes, that had some ash further north, yes.

And the ash was particularly dangerous, was not it?---Yes.

Incidentally, why did not you mention in your report this ash residue that arose after the Marcoo - why did you just refer to the B type fall-out, which would not appear - - -?---Because in the direction that their camp site was that was B type fall-out.

Now, you had people here where there was a communication problem, did not you?---Yes.

Was not it absolutely critical to make sure that you were getting precise information from them as to precisely where they were?---Well, I was told - Frank Smith went out and got them. I believe, I do not remember this, but from somewhere in reading it, is that before I came there he went out to where they were and brought them back so that he would have known where they were.

You see, a number of people have told us that during the interrogation of these people that what they gleaned from that discussion was that the aboriginal people had camped either in the crater or on the rim of the crater, did you gain any such impression?---No, none at all.

I suppose now you just could not explain how it could be that other people could have drawn that conclusion? ---I suppose it is just imagination, it might even just be the bar room type gossip, or whatever it is they talk about - what if they slept in the crater, yes, that would be interesting?

Did you discuss this with Colonel Durrant?---It could not be otherwise, I am sure I discussed it at some stage.

Do you have any idea where he could have got the idea that the people had slept on the outside rim of the crater? ---No idea.

Just going on from your report - oh, incidentally, it appears - assuming that there has been no after-monitoring of the people - is it standard health physics practice that if people have been in a contaminated area at all, or within a range and say they have got some contamination, that they go back into the same clothes they were wearing after they have had their showers?---I have not any memory of this, they could have been supplied with towels, I do not know - wear their own - I do not know what they did in that respect. In this particular I suppose there would be a tendency to go back into their own clothes, maybe they were given something different.

You took photographs of the people did not you?---Yes.

And the photographs that you showed us here the other day, you recall I asked, were photographs of the people after they had showered?---Yes.

Did you notice that the woman was apparently wearing the same dress?---Yes.

And had a towel wrapped on the bottom?---Yes.

Which appeared to be dusty?---Yes.

Did you notice that?---Yes.

After the showers, were they not all dressed in exactly the same clothing that they had arrived at the health physics caravan?---Looks like it and probably we had nothing there to give them I suppose.

Were you not in charge?---Yes, I guess so.

What steps did you take to get them clothing?---If I remember, about that stage, the security people arrived and I cannot remember any details of it but at that stage they were in charge. I think, my memory is that they took them to some other place in the range prior to them going down to Yalata but I never saw them again. I think, now you have jogged my memory, I have got an idea that I heard from the security people that they were issued with different clothing when they went to the second place, this other holding place.

So, that would mean that they had driven the whole of the distance from Maralinga village to - - -?---No, the holding place was north, I do not know where it was but somewhere up in the forward area, whether it was Roadside or some other place, I do not know, but somewhere up there they were held waiting until the Yalata people could come up or whatever.

They were not actually driven down to the mission itself, they waited for Yalata people to come up?---When did I go to Woomera?

15 May?---15th, that was the next day?

Yes?---How long - I do not know, they would have had time to go down the afternoon of the 14th, but I lost track of them at Pom Pom.

Should you have lost track of them, Mr Turner?---Well, security then came and they decided they would take the people.

But they are not health physics people, are they?---No.

Were you not concerned as to there being any risk that these people might have ingested or inhaled any dangerous substances?---Well, what could I do about it?

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Well, in the first place could you not have checked, had them examined, had them monitored subsequently?  
---Well, if they only have a contamination which does not warrant washing, but we did wash, then most of it would go and if it did not go, what would be left if you could detect anything would scarcely warrant a second washing when the first washing itself was not warranted.

But that would not removed an inhalation or an ingestion risk, would it?---Inhalation risk would only occur out in the field, it is not going to going to occur from anything on your hair. For any inhalation you have got to get a considerable relative amount of dose, these sort of doses are so small that they do not even register into the health physics consideration.

Mr Turner, any inhalation dose, if you happen to inhale the wrong substance is big enough, is not it?---No, you are probably thinking of plutonium. With fission products, it is - you would have to have a fair bit of it.

Well, what were you saying before, and correct me if I am wrong  
- I understood you to say that there was nothing you could have done about it if they had inhaled any substance which was dangerous. Are you now saying that there was not any substance that they could have inhaled?---That is right, both those statements are correct.

Both statements are correct?---If they had inhaled something or if they had ingested something there is not much I could do about that, but they certainly could not inhale or ingest something from what was on their body or there would not be enough there -no they could not -it could conceivably - - -

But from the air, from wind?---Look we had air samplers going day and night all over the place and never at any stage did we pick up anything on air sampling.

Did you have any air samplers at the Marcoo crater?---Yes, north and south.

Really, Mr Turner, are you sure about that?---I have got reports on them all somewhere.

Would you find those?---Sure. It may not have been on that particular time but we certainly had them at sometime.

That is the time we are talking about, Mr Turner?---And remember if you test over a long period of time and you get nothing

you can assume that you get nothing at other times because you test it over a wide range of wind regimes - - -

THE PRESIDENT: Let us just have the results of your attempt to answer the question that was put to you.

THE WITNESS: Well, in February 57, we were doing air sampling north and south of Breakaway, in Central street, north and south - that is north of Marcoo. The readings are almost zero, I have got them all here.

MR EAMES: Is this at Marcoo?---Just north of Marcoo.

How far north of Marcoo?---Point seven miles.

What date was that?---February, 57.

What about May 1957, have you got any recordings there?---No, as I saying, this is done, in that area it was done through January, in January for many days and I have got the wind gust of 25 miles an hour and so forth and the readings. It is .0002 of a tolerance.

Might I just see that document?---Sure.

This records that after checking with the Maralinga observatory it was found that the dominant wind was southerly for 75 to 80 per cent of the time, is that right?---That is right.

In fact the Maralinga area was quite notorious was it not for the occasional extraordinary dust storms and willy-willys?---Yes.

Is it not the situation that if you are wanting to make an absolute check you would be wanting to make for these people in May of 1959, would you not have wanted to run out a machine there and then to check what the wind hazard was, what the suspension hazard was at that time?---No, because our experiment - we had gone over all the range and the hot spots, there are some experiments there go for weeks and nowhere at any stage, anywhere, no matter how hot the place was did we ever get anything even remotely approaching a tolerance. A tolerance, mind you, means that you can live there day and night for year after year for their whole life, that is what a tolerance means.

It goes on, does it not, the document you were reading from to say:

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(Continued on page 3081b)

Obviously there is no inhalation hazard . . . . . had been blown away.

Is that suggesting that it had not been blown away from Marcoo?---No, it would not, because in Breakaway you got glazing where you had the small friable pieces of breakaway glazing which breaks up into little specks, that is the one that gets blown around, but at Marcoo you are dealing largely with rock, some of the rock was quite massive, you could not even lift it. That does not blow around.

Yes, what about people, if they were camping on the ground, do you think there would be any risk of inhalation then?---No.

Why not?---Well, not - where they were camping were beads and the beads just do not become part of the inhalation problem.

Well, this all comes back to the question, does not it, whether they were camping 328 yards away from - whatever it was - the caravan or whether they were camping on or near the crater?---It would make a difference, yes.

Yes, and there would certainly be an inhalation risk if they were lying on the ground camping near the crater, would not there?---Well, we never found an inhalation risk when we tested there.

But you would not discount an inhalation risk if people had been lying, without protective clothing - - - ?--- Yes, if they were scuffling a lot it might, but you must remember we did even tests hanging cascading factors out of landrovers going along through these areas. We were trying to get inhalation hazard and we just could not get them.

Do you recall from the photographs yesterday and I ask you about this too, about the equivalent that the people appeared to have, they had what appeared to be almost no ground covering, was not that so?---Yes, that is right.

So the probability would have been that these people would have been lying, probably, directly on the ground? ---Yes.

Tell me, in those circumstances were you not surprised by the readings that were obtained?---No, because, as I say, that deep fall-out does not stick and if it were going to stick anywhere it would stick possibly in the hair.

Is not the situation that in circumstances like this, a good health physicist would assume the worst possible situation?---Well, what worst possibly situation?

Well, do you believe that you assumed the worst when you dealt with this situation?---I dealt with what I was told was the situation - it was not a case of conjectural: could they have done this, could they have done that.

Well, if you are assuming the worst situation, at the very least, you would after-monitor, would not you?



---No. The monitoring shows that there is less than enough to really warrant taking any action and you take action purely as a precaution just to sort of - in case type of thing. And having taken that action what would be the point of monitoring? Now look, again, it could be that even before monitoring - if monitoring is done as just a check, it may be the police arrive at that time. I cannot remember the details of these things. There are so many circumstances can interfere.

Yes. Do you recall Mr Lloyd? I think he worked with you during this time?---David Lloyd?

David, Captain Lloyd?---Yes, but he was not there at that time.

I think you trained him, is that right?---Yes. He was there during rdu courses.

All right, well - no that is - - -?---He was there during Buffalo.

It was put to him a scenario of the sort which we are now describing of the Pom Pom incident, and he was asked what steps he would have taken in the circumstances that you found yourself in, not in precisely those terms. He was asked this at 1208:

In these circumstances -

this is after people have been discovered and they have had a count as is described:

In these circumstances this would be one  
. . . . . school of physics.

And his answer was "I am sure it would". Was it the school of physics that you applied on this day?  
---I do not see what more could be done.

What about a urine analysis?---We never did urine analysis, and I had not the capacity of doing it.

What about back at Maralinga itself, at the village?---Well, who would do it? I mean, what - you are talking about a laboratory that is set up for that sort of thing.

Was it too late for a thyroid analysis?---Oh, yes. You have to do that within a matter of weeks of firing.

That, I think we have been told, is because of the short half life, is it?---Yes, the 8 day.

Well he was asked about where one would expect these people to have come from, and this was put to him and this is again at 12.08 and I will just put the start of the question which will not make immediate sense:

Or you do not recall or you cannot . . . . .  
. . . . . would that surprise you?

And his answer was:

Not particularly . . . . .  
sort of contamination.

Would you agree with that?---Not necessarily. It can be - I mean - well I will not go into for instances - but - - -

Well, do you not agree with that?--- - - - because if you are dealing with - in this case dealing with fall-out particles, one person could pick up a fall-out particle but the other three not - - -

All right?---And that one particle we used to get in our filter papers. We might count like - this is dealing with fall-out coming from the American tests. Your filter paper might run for 24 hours and there is one particle on that filter paper that is radioactive and quite - do you know that our air sampling - the most active air sampling we had came from the American tests in the Pacific?

Well, can I just take you to the next question. This is after he had spoken about a fairly uniform sort of contamination:

I suggest

and then he said:

and that suggests a crater ring or an area outside a crater.

- - -?---Why.

And then it was said:

Yes.

And it was put to him:

A crater rim . . . . . described before

and he said:

There was not much glazing at Maroo.

Which I think you have agreed?---Yes, there was not any.

Yes, there was not any?---No.

And then it was put precisely:

In other words, it has to be inside the crater, does it not?

His answer was:

I think so - I would think so.

And it was put to him:

And anyone with your experience . . . . .  
. . . . . in the crater.

His answer was:

I think that would be a reasonable first assumption.

Would you agree with that?---No. I mean, I think he has just been pushed into a corner there and is agreeing. Why do you - that does not make sense.

Well, let me go on:

That would certainly be the first assumption . . . right.

?---The evidence was that they did not have any contamination. Three of them had no sign of any contamination, rather the father had no sign of any contamination anywhere, the mother and daughter had no contamination in their hair. Now the uniform nature is they have no contamination. If we were to measure the people in this room, we would find there is no - well, I presume - we would find there is no contamination on their hair. Now that puts a - - -

THE PRESIDENT: Well, lets remain at Maralinga for the time being.

THE WITNESS: Well, I am just trying to point out - - -

THE PRESIDENT: Well, we do not have to have a speech about it, just confine yourself to the questions you are asked.

MR EAMES: If the father had a hair count of 5-7, and you will see from the report - - -?---No, that 5-7 is just a background - - -

Yes, I was just about to say that, Mr Turner. And it is recorded under remarks:

No rise in background was noticeable on the father.

Now, if there was no rise in the background at all, do you say then that from the father's point of view, it was quite unnecessary for him to have a shower?  
---Yes.

The only one that - from what you are saying - that there may have been even a doubt about, is the son?---Yes.

And is it not more serious, in any event, a count or a contamination on a child anyway?---In general, yes.

Tell me, was there any sense of panic, excitement or drama at the caravan on this day?---Not while I was there.

Anything that could have given observers the impression that there was a flap on?---Well, there was a flap mainly, from the point of view of people arriving. There were a number of people coming up but during the decontamination procedure there was no flap.

Did any senior people come up to the range as a result of this incident?---Up to the range?

Sorry, up to the health physics caravan, firstly, whilst you were there?---Not that I can recall. Security is the only ones I can recall, but there may have been.

Your trip to the north, which took place I think you said, in about July of that year, was that as a result of this incident?---Probably, I should imagine influenced it.

Yes, was that a public relations trip?---In a sense, yes. Well, it was mainly finding out what was happening in that area, whether there was concern, whether there were events that had happened, whether there were reports of aborigines wandering around, anything that might be useful to know.

And you say it was during that trip at Ernabella Mission that the pastor in charge - this is at page 25 of your statement - said to you that he believed that some of the aborigines had heard the explosions - - -?---Yes.

- - - which none of the whites had. Did it occur to you that might have been because some of the aborigines were rather closer to them than the white people?---No, these were people on the mission, at the mission. They were - at that particular time - they only go walkabout once a year, as I understand it, and at that particular time they were all congregated at the mission, on the mission site itself.

Tell me, did you find out what time the once a year was that people went on walkabout, as you have described it?---No, I do not think - I cannot remember. I may have done. I probably did not.

Have you heard about the dingo pup season?---Yes.

Do you understand that that was an occasion where aboriginal people might come south on to the range area?  
---Well, I was told that the dingo - when they go getting the dingo pups, it is in the Musgraves.

Who told you that?---Ernabella - Ernabella people.

Did it surprise you to know that the dingo pup season coincided almost precisely with the test seasons for both Buffalo and Antler?---I do not know. I could have - I do now know. It does not register at the moment.

Tell me, did you consider taking an interpreter with you for that trip?---No. We had Tom Murray. I think - hang on, was Tom Murray there that time? Yes, Tom Murray was with us.

You never in fact got to speak to any aborigines anyway, did you?---No.

So it was probably unnecessary?---Yes.

Just finally, with respect to - I know that you were not present during Emu, but were the areas where the explosions took place at Emu, were they - I think you said yesterday - were they also limestone formation?---No. Well, there might have been limestone underneath, but on top was an ironstone type gravel.

Would you anticipate that the result of the blasts at Emu would produce the same sort of ash situation that you described for other tests?---I do not think so. There is so much heavy glazing at Emu. It was - this ironstone chain - I think I described it as very dark, dark red, almost black gravel - glazing. It was very thick and I would be surprised if you could excavate any under - if there was any underlying limestone - to put into the cloud. See, where we were, we had a thin layer of sand only a matter of millimetres thick, or a centimetre or so, and it was easier to scrape away and get down to the limestone.

The last thing - I said that was the last, but this is the last thing: with regard to the Pom Pom incident in your statement at pages 22, 23, you give quite a lengthy description of what you say you have recalled of the - what was happening with these people who were discovered at Pom Pom; the man had killed a beast and been hiding, etcetera etcetera; do you agree that the documents I showed you today, none of them seem to refer to any such incident? ---Yes, I just noticed that; and wondered whether either something had been added when I was given the story, or people have felt that it was not appropriate to put in. I do not know.

You cannot recall - did you ever record the story anywhere?  
---No.

It was just something which came to you as you were preparing the statement for the hearing, was it?---No, I know that the incident that I am recalling was told to me by somebody I do not recall not terribly long after the event. I do not know, possibly weeks, maybe a month. I do not know. But somebody gave me the story. That is how they understood it from the Yalata people.

Yes. I have no further questions, your Honour.

THE PRESIDENT: Yes. Just before we adjourn, Mr Turner, at the time of the Pom Pom incident, which we have been told was 14 May 1957, would any of the personnel who were required to go up to the vicinity of the crater have been required to wear protective clothing?---Yes.

Well, if the danger to people in almost no clothing was as negligible as you have told us, why would you require anybody to wear protective clothing in

the area at any time at that time?---Did I say that there was no - I did not say there was no danger, did I?

Well, you made it seem very, very trifling, I thought?---No, well I am trying - what I am trying to put into context - - -

Can you answer that question. Why would you require anybody to wear protective clothing if you do not think these people were at any real risk with no clothing on?

MR McINTYRE: Well, it was virtually - he did not - - -

THE PRESIDENT: With almost no clothing.

MR McINTYRE: Yes, thank you, your Honour.

THE PRESIDENT: Well, we will take a brief adjournment.

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THE PRESIDENT: Mr McIntyre?

MR McINTYRE: Mr Turner, before the adjournment, his Honour asked you a question about the risk, if any, applicable to people walking without protection around the area of the area of the Marcoo crater. Would there have been any risk to a person unclothed, without protection, being located somewhere within two or three hundred yards of the Marcoo crater at the time of this incident? And if so, what was the nature of the risk?---Yes. It is very important to realise that there is a very wide range of radiation levels applicable to any given area; and that the degree of risk is escalating within that range. This is a range of many orders of magnitude, so that in the particular area we are talking about and at the particular time - it was already say six months or so old - there is a measurable risk. But that measurable risk is not a dangerous risk in that particular situation. Now, to imagine it dangerous, I would imagine you would have to eat the material. That would be about the way that - and even then - if you were in the Marcoo region and you started eating the soil, you could develop the risk to the point where it is - now becomes a health hazard.

What was the reason at that time then to require the servicemen to wear protective clothing and respirators if they were required to work in that area?---Because we have a red - a boundary beyond which the rules are everyone wears clothing; and the purpose of the whole exercise is to minimize all risks, particularly if people are making repeated journeys into that area. So every time a person traverses an area, you want them to have the minimum amount of transference of activity, or the minimum amount of gamma dose, or anything at all to do with radiation you try to minimize it. But it does not mean to say that, in the event of the failure of that, that they are now encountering a health risk to the - in the point - to the point that they are going to suffer at a later stage. Because, as I keep saying, there is such a wide range of values before one encounters that risk, the real risk.

Passing from that. You said in answer to some questions from Mr Eames, what your understanding was about the relationship between yourself and the Atomic Weapons Research Establishment, and other Australian organizations. I think you said that your monthly reports were sent to the Atomic Weapons Research Establishment, in fact eight copies were sent there?---Eight copies, yes.

And I think about eight copies were sent to Australian addresses?---Yes.

Now, was it the case that your responsibility for the performance of your duties was a responsibility to the Atomic Weapons Research Establishment?  
---For scientific purposes.

Were there any other responsibilities you had of a non-scientific nature?---Of a non-scientific function it is divided between - it is for the range for normal day-to-day affairs. If it is outside the expected handling that could be undertaken by the range, then you would go to the Atomic Weapons Safety Committee or to CXRL.

Did the Atomic Weapons Research Establishment have any person who was responsible for health physics on the range, other than yourself, whilst you were there in non-trial times?---Yes. Well, after Antler, Peter Wood.

What about between Buffalo and Antler?---Between Buffalo and Antler - - -



Was there any person in the day - please - ?---Yes.

Between Buffalo and Antler, was there any person in the Atomic Weapons Research Establishment who had the responsibility for health physics on the range?  
---No.

Was that yourself in that time?---Yes.

Did that situation alter after Antler?---Yes, we had - Peter Wood was made deputy health physics representative.

Did he have any direct responsibility to the Atomic Weapons Research Establishment with relation to health physics on the range after Antler?---Yes. He had the responsibility for all UK activities.

Did you have any responsibility other than for the scientific matters to Aldermaston after Antler?---No.

What was your relationship with the Commonwealth x-ray and radiation laboratories at that time? I take it that copies of your reports were sent to that laboratory?  
---Yes.

Was that to keep them informed of what was happening, or was there some greater purpose for that?---Well, to keep informed, yes, but remembering that the director of CXRL was also on the safety committee, so provide a link there.

I think you were then an employee of the laboratories?---Yes, I became an employee of CXRL in 58.

Did you have any administrative responsibility to the radiation laboratory in terms of your own administration or your own job?---No, not that I am aware of.

Do you recall any discussions in a meeting of the atomic weapons test safety committee which might have accepted or ratified the arrangements for control and arrangements for responsibility between yourself and Aldermaston and the radiation laboratory?---Have I got any - - -

Do you recall any meeting of the atomic weapons test safety committee when those arrangements were approved or ratified or accepted?---No, I would have to look up correspondence about it, that is if I could find it.

I think it is the case, is it not, that you have prepared a large number of monthly reports whilst you were at Maralinga range?---Yes.

Which you have sent to the addresses that you have described.

Your Honour, those have been produced, I think - or I called for them yesterday. Could I - I can reassure my learned friend that I do not propose to take Mr Turner through each entry on each - - -

MR McCLELLAN: I do propose to tender them at the end of Mr Turner's evidence.

MR McINTYRE: In that case, I will not - - -

THE PRESIDENT: What are they?

MR McINTYRE: These, your Honour, are the reports that Mr Turner sent every month or thereabouts from Maralinga to - - -

THE PRESIDENT: To which he has been referring?

MR McINTYRE: Yes.

MR McCLELLAN: No objection. I think everyone has had access.

MR McINTYRE: Now, you, yesterday and indeed today, have referred to a file that you have brought yourself to the commission with some documents in it?---From the commission?

No, yesterday and today you have been referring in your evidence to documents in a file which you have brought with you?---Yes.

Now what documents are in that file?---They are extracts from that placed in subject order.

Does your own file contain a complete copy of these documents? ---I do not know. I have no way of checking because if there is a month missing, I do not know whether there was something mentioned or whether it was a nil report.

Yesterday, my learned friend, Mr McClennan, was referring you to some letters, I think, between yourself and Mr Joe Richardson?---Yes.

Do you retain any copies of those letters?---No.

When was the first time you saw them, subsequent to the time you wrote them?---Possibly Sunday, possibly Monday.

I think in addition, there were a large number of health physics files maintained, were there not, at Maralinga?---Yes.

I think those files ultimately were sent to the radiation laboratory for safe keeping in Melbourne?---Well, when I handed it over to Joe Richardson, he went up and sorted things up, and I understand that he selected those that he felt were worthwhile and brought them back to Melbourne.

Would it be the case that there was a large - a very large amount of detail on those files concerning your day to day activities and duties at Maralinga range for the whole time you were there?---I would not go so far as day to day, but certainly more information than what I hold, yes.

When was the last time that you saw those files?---Well, certainly before 64.

I think the report that my learned friend Mr McClellan showed you yesterday in relation to the May 57 reports of the radon gas escaping, that came from a health physics file, or do you not recall that?---I do not know.

Yes, I call for that letter, your Honour.

THE PRESIDENT: Which letter?

MR McINTYRE: The letter of the - may I approach the witness,  
your Honour?

THE PRESIDENT: Yes.

MR McINTYRE: This, Mr Turner, is the letter dated 26 June 58  
to Aldermaston, and the one of 27 June concerning the  
addition of the extra filter - - -?---Yes.

At DC12 building?---Yes.

Can you tell me what files or file those two documents came from?  
---Well, it is headed, AHP 10/5, so that is the file.

What does that mean?---Well, AHP means Australian Health Physics,  
10/5 is just the file number.

Does that indicate that that document was filed on one of the  
health physics files maintained by you at Maralinga?  
---I would say so, yes.

Prior to it being shown to you in the sittings of this commission,  
had you seen that since 1958?---No.

Well, is it the case, Mr Turner, that there is a large reservoir  
of information contained in your monthly reports and  
in the health physics reports in the letters between  
you and Mr Richardson, which would amplify and fill  
out what you did at Maralinga far and above beyond  
what is contained in your statement?---Absolutely.

I will take you to a few specific matters, before I deal briefly  
with some of those reports. These related to questions  
put to you yesterday. You referred to cumulative  
doses being recorded for health physics personnel  
up to the commencement of the Antler series. Now,  
at the conclusion of the Buffalo series, did you have  
available to you a list or knowledge of those health  
physics people that would be remaining on the range  
during the inter-trials period, that is, between  
Buffalo and Antler?---No, there was a bit of a gap  
in the information retrievable at that stage. Until  
Peter Wood came on the range and had access to the  
records, I was not informed of the - - -

Well, I think you have probably answered it anyway. When the  
British left after Buffalo, was there left an  
Australian health physics team on the range to perform  
duties in the inter-trial period?---Yes.

Was it the arrangement that you would be given in relation to those  
people their cumulative exposure totals up to the time  
of the conclusion of the Buffalo trials, to enable you  
to carefully control their exposure to radiation in the

ensuing months; was that the arrangement?---Well, I appreciate your point and it has concerned me to try to recall - because I have not got that in my report - to try and recall what actually transpired, and I am a bit hazy, but I have got an idea that - and somebody from CXRL will no doubt help me here - I have got an idea that for a time there, we were sending out badges to CXRL, because they did the development for Australia, and they were Australia-wide film badge service - - -

Before we get to that, Mr Turner, do you recall it was the arrangement that you would be provided - - -?---There was none given to me at the - - -

All right, so you do not recall that as being the arrangement? Was there a stage before Antler that you were notified of the cumulative exposure levels of the Australian health physics personnel that were working at the Maralinga range, after Buffalo concluded?---The first I am conscious of knowing it properly, apart from my own personal dose during the Buffalo period, the first I am consciously aware of it is when I was given the integrated dose by Peter Wood when he started after Antler.

After Antler?---Yes.

Do you recall being given any integrated dose before Antler? ---Not at this stage, I just cannot recall what happened. There must have been something, I presume, but I cannot recall it.

Do you recall being aware, prior to Antler, of the integrated dose levels of the people that were working for you? ---I am terribly sorry, but I cannot recall the situation, how it was done.

Do you recall, whilst Antler was progressing, that you were aware, or were you not aware, of the - - -?---Well, during Antler - - -

Please - of the progressive cumulative totals of the exposure of the people that were working in your group? ---I was aware of the daily totals.

Were you aware of the cumulative totals as well at the same time?---Possibly. These are things which are - I just do not know now.

I think after Antler, you recorded in your monthly reports summaries of the monthly dose totals for each of the people working for you?---Yes, and I am afraid that is all I can remember because, by having those monthly reports, they have jogged my mind.

Well, yesterday, my learned friend Mr Eames asked you some questions about information which you had in your

own file at the time when it was said to you that there might be - or that there was some public discussion about the effects of the trial, and calls for a royal commission. Did you have any information in your own files there relating to the cumulative doses of any people other than the people employed in the health physics section that you were engaged with?---Well, the rdu - the radiation detection course, is that coming into your - - -

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Well, perhaps I will put it a different way, in relation to what sorts of people do your reports contain entries of cumulative radiation doses?---Only those people that came into my ambit, which is the health physics group, the rdu course, and maybe a few people attached.

Now there has been reference on several occasions in the evidence to the range as a general description of the area that you were in, what did you understand it to mean, to be meant by the words, the range, did it extend to the boundaries of the Maralinga prohibited area, do you think?---Well, it did officially but in terms of practice, the range usually meant about north to 25th Avenue and across the - about down from that grid system down to the Nullarbor Plain, the type of range where people go, that is what it usually meant, the range.

Was it discussed or accepted or understood in those terms?  
---I think so. If you go off the range then it means you go down to Watson or you go up to Emu, or somewhere like that, that is going off the range.

And was that the way in which the range was accepted for the duration of your stay in Maralinga, or did it change from time to time?---I would say so, yes.

You were asked some questions about the ash which fell as a part of the consequence of each of the detonations or when it did occur, and my note here says that you said when describing it, it does not drift onto the wind when blown upon. Now, it is a little out of context I think, but do you recall yesterday saying something about that ash not drifting onto the wind or not having the characteristic of drifting onto it or with the wind?---I had a limited observation of Biak ash, it is the only ash I actually saw, and it was very flimsy and you could not pick it up, it was completely impossible to pick it up; as soon as it is touched it just crumbles, and if it was disturbed by a wind, which I did not see it, I think the same thing would happen, it would just crumble. It must have just floated down like a snow flake and it is so, well, flimsy, is the best word, that it would not have a life of any duration at all.

Do you know what the life was that it had?---I saw it, I think, the following day, in the morning I think it was, and I do not think I found any more after that, like, by nightfall, I think is - because I was wanting to know more about it and I just could not.

Well, speaking in terms of the Marcoo crater as at May of 1957, do you think there was any possibility of any of the ash which might have followed the Marcoo explosion in

1956 still being present in or around the area?  
---Well, not as - - -

THE PRESIDENT: Wait for the completion of the question, Mr Turner, and then you will be able to give a better answer.

MR McINTYRE: It has to go onto the transcript, Mr Turner. so that we can later on get the full question and answer.

Do you think that by May 1957, when Pom Pom incident, as we call it, occurred, there might have been any possibility of any of this ash still remaining in or around the area of the Marcoos crater as a consequence of the Marcoo blast in 1956?---Well, I never saw any ash; I do not think anyone saw any ash in the Marcoo area; but we called it ash- I think initially when I first referred to it, I think I might have called it an ash-type fall-out, and the reason for that is its solubility. It was a presumed ash-type solubility because when we pick up a sample of soil you cannot see anything there, but it is active, and when you measure it for its solubility you find the activity is soluble.

Are you saying that - - -?---So it is ash-type in the sense that probably ash fell there.

Between the Marcoo explosion and May 57, if it had rained on that site, would that have had any effect upon whether or not the ash would have remained there or not?  
---Well, it would have been broken up into its constituent particles and it would still be present, yes.

Do you have any idea of what the physical ingredients of the ash were, so that you could determine its half life?---Well, it is just normal fission products.

How long would it last as a hazard form in terms of emitting radiation?---Well, it needs to be divided up into two main areas: there is the early stages is the gamma, that is the one that is the criterion, and it is not terribly important what caused the gamma, but with the process of time it eventually gets to the stage where the strontium 90 is an important ingredient, and depending on ratios and so forth, it might be say, two years, three years, and strontium 90 now becomes the dominant isotope and that being a beta emitter its hazard is ingestion as it goes into the bone. So that you are constantly having to re-arrange hazards. If you read my report you will see a number of instances where I am trying to determine what is



the dominant hazard in a given area, and it can be a gamma one, or it could be a strontium 90 one, or it could be something else, so the answer to your question is not straight forward.

What is the longest time that you can recall seeing ash present at a firing site after a firing?---Ash?

Yes?---At a firing site?

Yes?---I presume it was Biak which was probably a day later.

Did you see any of them solid after a day?---Did not - - -?

Did you see any evidence of ash after - - -?---Well, you see, when it breaks up, no, it is no longer visible. It breaks up.

Does it stay there and become invisible or does it break up and dissipate?---I assume, from what my observation is, it just breaks up.

Coming to your visit to Emu when you made a general survey of the equipment, you described the aircraft that you showed in the slide yesterday as being located in one of the areas near where it was placed to be part of the target response group, and I think you made reference also to Land Rovers being present, and I think you also referred to some vehicles being kept in a fenced area or a parked area, do you recall seeing any vehicles in any kind of a compound?---In a fenced area?

Yes?---I could have, I do not know.

Well, apart from the aircraft that you saw in the photograph, did you see any bulldozers or Land Rovers or trucks anywhere located either around the Emu village or the test sites or anywhere along the roads between those points?---I do not remember any heavy machinery.

Do you recall seeing any Land Rovers ?---There was some, yes, there was some Land Rovers.

Whereabouts did you see them, were they at the village or - - -?  
---No, they were not at the village, they were out I think at what they called A site or that area.

Was that in the region near where you showed us those towers in the slides yesterday?---Yes, in that general area, yes.

That is in the test area, or near the test area?---Near the test area.

It was quite some miles in fact from the village of Emu to the test site?---Yes.

You said you made a general survey of the equipment at Emu, that is according to my note here anyway, was that a survey of the equipment in the area of the test explosions that was held?---Yes, it included that, I had been told by people in Maralinga to look at certain places and we did and that was all right, and then we went towards the zero in order to determine at what stage are we going to pick up fall-out so we are measuring as we were going, and some of these target response items were on the road, like on the side of the road, so we checked those as we went.

Were there any target response items away from the road apart from that is separate from the ones that were just adjacent to the road that you have just described? ---I do not recall any. They were pretty well - I think there was mainly one line, whether there is an odd one, I am not sure.

Do you have any recollection of whether the team you were with, including yourself, checked every piece of equipment that was in the - - -?---I am pretty sure we did, I have not got a specific memory of doing it, but that was the intention of checking everything as we go.

Was it your intention to see whether any area into which people might be required to go in the course of their duties for the Buffalo test was an area which did not pose a radiation hazard?---That was the general idea, as to make sure that the Emu area as a whole did not have any residual radioactivity there could be a problem to the people who were living there.

Did you find any area in the village, in the test site, in the target response area, or the roads between those points which had any radiation hazard?---Only in the vicinity of the ground zeros.

How close was it to the ground zeros that you felt that that radiation hazard first emerged?---Well, again, I have got it in reports so you would be able to check it more accurately.

Yes?---But my memory is that a glazing, I think with those sites were about 600 feet radius and I think we picked up - of course you get the gamma at a bit of a distance, but the actual measured fall-out I think was something like about 800 feet, that type of distance, but your gamma is a little bit further.

You mentioned in relation to checking of Land Rovers, a gentleman called, Plummer?---Yes.

Was he an air force officer?---Yes, pilot officer.

Pilot Officer Plummer. What was his job then at the time?

'---Well, he was part of the rdu, just one of the teams on the rdu.

Now, yesterday you were taken to the question of indoctrinees and you indicated that, as far as you could comprehend, they seemed to be fairly free to wander in and about certain areas and that you, in fact, approached some of them or cautioned them about going close to ground zero. Do you recall when it was that you saw those people?---I have always kept in my mind that it was the first time I went in but I have been thinking about that and I am beginning to come to the conclusion that it was more likely to be the second day because the first day there was not much time between getting in and when it was dark. I am pretty sure that I saw them under better lighting conditions and I went in the next day a couple of times as well; so, I think it was the second day.

What is your recollection as to the state of light when you first went into the One Tree area?---It was dusk, it was not -- there was not much remaining light so I could not stay there very long and that, again, adds to the probability that it was the second day.

Do you have any recollection of the numbers that you saw in this group of indoctrinees?---In the group, oh, two or three.

As a total group, do you have any recollection of how many there were?---The total altogether, in the field of view, 20, 30.

Did they appear to be organized into sub-groups or not?---Mainly pairs and threes, seemed to be the general way. Maybe if I had thought about it more there might be a four somewhere, but that kind of thing.

Was there any suggestion from what you saw that they might - each group might have had a group leader?---They might have, could have been.

You showed us yesterday the slide of the One Tree crater taken from the air and there was a road you indicated, I think, that ran off to the right in the photograph which went down to Mina, do you recall that - or in the direction of Mina?---Yes.

Do you recall that slide yesterday or have I misdescribed it?  
---Of Marcoo, yes, that is right, the bitumen road,  
yes.

Yes, that is from One Tree down towards Mina?---You said the  
crater, did not you?

Do you recall seeing a slide yesterday which you told us  
was a slide, a photograph taken from the air of  
the One Tree site with the road running off to the  
right of the photograph which went, you said, down  
towards Mina, do you recall that slide?---Yes.

Now, in relation to that road that is shown coming from the  
site of the explosion, where is it, to your recollection,  
that the target response items were located?---Well,  
the majority of them were between Waroo - Waroo is  
3000 feet from GZ - between Waroo and the ground zero  
and in a segment about, say, a 60/70 degree segment  
swinging round the arc from Waroo and then behind  
Waroo they had some of their huts, some of the  
articulated dummies and that sort of thing. But  
inside that track, the Waroo track as they called it, were  
most of the anti-aircraft tanks, Swifts, Bailey  
bridge, so forth.

Was it the case the road which you referred to as the bitumen  
road, was, in a sense, a central laneway of access?  
--- It is the main access.

And the items were set off at various positions to either side  
of that road?---Well the target response items,  
the main target responses were all to the east of  
that road. On the west side of that road were  
some biological targets.

What is your recollection to the closest distance, or the  
shortest distance between ground zero and the first  
of the target response items, are you able to recall?  
---Well, if you call some of the Canadian machine  
gun posts a target response, they were the nearest and  
they were about 1000 feet.

Do you recall the distance from the ground zero to the first  
vehicle?---Well, I have a map of that and I could  
check on it, but I would say 1800 feet, but that is  
a guess. When you say vehicle, I am talking about  
vehicles, not tanks. The first tank is 1200 feet.

Did you yourself conduct any measurement to ascertain the  
extent, if any, of induced activity in any of the  
target response items?---Yes, there was not a schedule  
plan, I was never asked to do this. It just seemed to

me that while everyone else was measuring the radiation level in a general sense, that it would be worthwhile to know if there were any localised hot spots due to induced activity.

What sort of items did you examine?---Well, progressively most of the items that were there, but I only - we were able to approach ground zero as time progressed and the radiation level decreased, but I tried to do most of the things there.

You said you found no evidence of any fall-out on those vehicles?---There was no fall-out, no.

The only activity was induced, was it?---Yes.

And the background - - -?---And the background, yes.

You were asked questions about the forward security between Buffalo and Antler. According to my notes, you said when the area was saturated with people you had a different regime of control. I think the regime of control that you were talking about was the presence of the observer in the tower, the manned checkpoint at Roadside and the relationship between the two in terms of passes and checks. Now, what was the different regime of control if you had a large number of people in the forward area between trials?---Well, if you have a large number you have health physics caravans congregated and they would go through the health physics caravans and not coming up - hang on, I am not too sure what you are getting at?

I think yesterday you were describing the security in the forward area between trials. You described the observer in the tower, at Eagle or Rainbow, the peace officers at Roadside checking passes, and the observations from the tower of people moving in the forward area and the knowledge of the people in the tower of the destination and task of those people by virtue of what they have been told from the peace officers. The note that I had here of your comment was that when the area was saturated with people you had a different regime of control. Do you recall saying something to that effect yesterday? ---Well, I probably was referring to the trials, the type of thing when trials are being prepared and you have a caravan centre for all your contaminated entries and you do not have to have so much rigid control going from Roadside to the caravans of people like engineers and what have you, because there is control further along the road. The control, where there

was a peace officer at Roadside and a peace officer in a tower, operates best when there are only a small number of vehicles milling around.

Was the Marcoo crater visible from the tower?---Yes. Can I explain a bit there?

Yes?---We had Eagle tower initially which is a camera tower and the view from Eagle did not permit a proper view of Taranaki when we were starting to - sorry, in what became Taranaki, in that area, because Breakaway was a hill in between. So, if anyone came around that area they were out of sight of Eagle tower, so we had to erect another tower called Rainbow tower and transfer - and this took, I cannot remember the month - but it was some little time later, and from Rainbow you had a view of the whole area.

When was this Rainbow tower erected, do you recall?---Again, it would be in my monthly reports.

Do you recall which year. Was it after Antler, or before Antler, or what test?---I would say before Antler.

Well, it will be in your reports. Briefly in relation to the aborigines at Pom Pom, you said you first got a message that they had been found there and you went up to the health physics caravan. I think you said that you were at the village when you got the message?---Yes.

How long did it take you to get to the caravan?---Too short a time according to my passenger. I do not know. There must be some indication in those reports, is not there, but it was not very long.

What is your recollection of what Sergeant Frank Smith told you as to what he had done in terms of monitoring these people when you arrived there. In other words, if you can try and put to one side the report there, do you have any recollection of what - - -?---Well, look, I - - -

THE PRESIDENT: Wait for the question, Mr Turner, please.

MR MCINTYRE: I just have not finished the question. Apart from what is in the report there, do you have any independent recollection of what Sergeant Smith told you he had done by the way of monitoring at the time you arrived at the caravan?---No.

There are a couple of little points here which seem a bit disjointed, but I will pass through them fairly quickly. Reference was made, I think, yesterday by you to the demonstration which appeared and you mentioned

that it might have been coinciding with demonstrations at Aldermaston in the United Kingdom. Did such an occurrence occur at Maralinga, did some people arrive with placards or some kind of - - -?---Well, as I said, the navy had a procession. As I think I can recall, they were dressed up as pirates.

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Whereabouts did you see this?---In the main street,  
London Road.

Were they naval personnel that were resident in the village?  
---Yes.

They had not come from Adelaide or from Melbourne?---Heavens,  
no, it was only a joke.

They were dressed as pirates?---I seem to recall they were  
dressed as pirates, yes.

Were they carrying any signs?---I can only remember "Ban the Bomb".  
Whether there were any others, I do not know.

THE PRESIDENT: English or Australian pirates?---I should  
imagine a mixture.

MR McINTYRE: In any event, was there any suggestion they  
were serious as far as you could see?---No, not at all.

Was it the time there were marches at Aldermaston on a regular  
basis?---I think that is what gave them the idea.

You said in your statement that it was policy not to talk  
to aborigines at Ernabella. I think that was  
a policy from the mission there, was not it?---Yes.

Were you told why that was the case?---They just said that  
is their policy, that nobody that comes to the mission  
can talk to the aborigines separately, that they  
only talk to the mission people. I suppose some  
people create problems, I do not know what the rule  
was, but that was their rule.

Some matters concerning decontamination, you said that the  
material that came from the wash-down area - I assume  
at the village and maybe at the airfield - was  
shortlived; that is the liquid waste from cleaning  
vehicles. What was the life, do you recall, of  
that waste, or half life?---It has not got a half  
life, it has a decay exponent. It is usually regarded  
as being 2 to the minus 1.2. In actual fact it  
varies a little bit between 2 to the minus 1 to  
about - well, of that order anyway.

I think you said this waste was buried in drums because by  
the time the drums had corroded it would be no  
longer a hazard?---Yes. It was really no longer  
a hazard when we got there, really.

Are you talking about the waste from Edinburgh or the waste  
from the delay from the wash-down pits?---That was  
even . . . . . wash-down pits by that stage.



The wash-down material went into a soak away pit, did not it?---Yes.

You said that that was monitored from time to time?---We monitored those, I have got reports of those.

What was monitored? The soak away pit or the delay tank?  
---Usually both. The procedure is simply taking out a sample of the water and then you either measure it in a liquid counter or you evaporate a dryness and measure the dried amount.

The results of all that monitoring and sampling are contained in these reports?---Yes.

Without going to those, reference is made to the activity of steam cleaning, and you were asked questions about the effect of high pressure steam on contaminated particles on a vehicle; and the question was raised as to whether this could pose an inhalation problem. Did you ever see steam cleaning being carried out?---Yes, yes.

Did the steam come out of a nozzle on the end of a pipe?  
---Yes.

How long was the pipe do you recall?---From what I can remember you just held the nozzle in your hand and it just came out a short distance from you.

What parts of the vehicles were being steam cleaned that you saw?---Well, it is usually the whole vehicle gets steam cleaned. Most of course, you concentrate on the grease area.

It was the case, was it not, that the grease areas had entrapped in them some particles of activity?---Well, it is possible. In some cases it occurred but not in every case, just in some cases.

If a vehicle had a patch of grease on it, and if it had a radioactive particle, or some particles entrapped in the grease, would the steam cleaning process have removed that radioactivity if it removed the grease?---Yes.

Is there anything about that procedure which might, in the circumstances that you observed it, pose an inhalation hazard?---No.

It has been suggested yesterday that particles could become airborne, either individually or absorbed in water droplets. Do you think that is a possibility?---We had no evidence of it. We used to air sample there to see if anything did get into the air.

How close to the position where the operator's face would have been did you conduct the sampling?---A matter of feet. I mean, it is not something that was fixed. You put the air sampler on a pad, the concrete pad, and the working area, and work around this area. So sometimes you were close and sometimes you were a bit further.

Do you recall how often it was that the wash-down points and the DC and RB area was the subject of air sampling to determine if there was any airborne activity in the region of the wash-down point?---I recall mainly from my reporting is that it was done daily in the early stages and I think probably it was maybe done as required later on, because wash-downs were not - in the beginning it was done more frequently.

When you say at early stages, do you mean during the Buffalo series?---I do not know what happened during the series, I was not there.

I see. When you say early stages, do you mean early in the trials period?---The time that I had there, had the control - - -

Was the sampling always done from the one point or did you vary the sampling point on the occasions that you went to that area?---I never set it up, but it was generally speaking on the hard standing - in the vicinity of where they were working.

Who was the person who set it up?---I cannot remember now..

One of your staff?---One of the staff or sometimes it would possibly be the mechanic himself once he got to know it.

Did an occasion ever arise when the results of the air sampling suggested that consideration should be given to the question of wearing respirators?---No.

Mr Tom Murray was mentioned yesterday and you were asked whether you recalled him husbanding water, and I think retrieving water from parts of the range when it was lying around. Did you ever have any recollection of any occasion when there was a water shortage at Maralinga?---Only before the trials started.

Before Buffalo?---Before Buffalo.

Was there ever any occasion after Buffalo commenced that you know of that there was a water shortage in the village?---No, no water shortage.

Might I approach the witness. I do not propose to go through all these with you, Mr Turner, but I would just like to refer to the format of these files?---Yes.

You see there are are eight file covers here, marked on the front R32.1 to R32.85, and you will see, if you open them, there are photocopies of what appear to be your monthly control reports?---Yes.

And do you see that they appear to cover - or each folder appears to cover your reports for a period of one year?---Yes.

I take you to the report dated November 56, do you recall that as being approximately the time of your first report?---It was.

And is there a table of contents at the front page of that document?---Yes.

And do you recall it being the case that a similar table of contents appeared at the front of every report for the remainder of your time at Maralinga?---Yes.

set out in that index, or that table of contents, your activities or a summary of your activities in those areas for that period of one month or more?---Yes.

Coming to the first report - the pages are out of sequence - there is a reference to health control in the forward area?---Yes.

Is there reference to the yellow boundary?---Yes.

And the location of the yellow boundary?---Yes.

Now, is it the case that throughout the duration of the time at Maralinga, you recorded in your reports the current location of the yellow boundary?---Yes.

And if one wants to find out where that boundary was after November 1956, apart from the Antler series, one can see it from this paragraph in each of the reports?---Yes.

There is another paragraph there headed, Barriers and Signs, and is it the case that if one wants to find out what barriers and signs there were located at the forward area after November 1956, one simply refers to your reports?---Yes, well when there is a substantial change made, then it is recorded but it could be that you might shift the barrier or, I mean, some minor change would not necessarily be recorded.

Right, and I think from November 1956, your reports contained the results of your radiation surveys of the crater areas?---Yes.

Whenever those surveys were done?---Yes.

In the first report there is reference to water sampling?---Yes.

Do these reports contain the results of all the water sampling that you caused to be done at Maralinga whilst you were there?---Yes.

Again, there is reference there to air sampling?---Yes.

And those reports contain all that information?---That is right.

There is reference in paragraph 2.6 in the first report, to the calibration of radiation measuring instruments? ---Yes.

Was that a function which you performed?---No. I had a nuclear instruments officer at that stage.

Who was that?---A warrant officer, Warrant Officer Crabtree.

And are the entries in your reports under that heading a summary of what his work was in that period?---Yes.

And do your reports follow that format?---Not in detail, but in general.

What, the general outline of the report?---Yes.

Using that - follows that line. I would like you to look at a couple of those reports, in particular the first file, which is marked R321-R329. Under the heading, Permits, this is a report dated November 1956?---Yes.

Paragraph 1123 states:

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Before a person may enter the  
controlled area . . . . .  
. . . an entry permit.

?---Yes.

Was that the case that you issued those passes from November 1956 onwards?---No, it would have been only until the Department of Works started to operate in the area and then authority was given to Paris Drake Brockman to issue authority to his own work people for their particular job, knowing what his limitations were.

Right, now, on page 3, under paragraph 131, there is a heading, Film Badges, and the entry reads:

All film badges were recalled  
towards the end of . . . . .  
. . . . . active areas - - -

?---Yes. Active areas.

It goes on:

- - - will be issued with film  
badges.

?---Yes.

And, I take it up until then, every person had a film badge, or they - - -?---I understood at the very beginning it did, but I also understood - no, my memory is not perfect in this - but I thought some of the village people were not reissued with their - after their first badge, they were not reissued with a second badge.

In November 1956, who was the person with the responsibility for the development of those film badges?---Well, again, you see it is XA9 but I do not really know who the person was.

You say XA9, is that a - - -?---Not XA - sorry, BL9.

That is base laboratory 9, is it?---Yes.

Located in the village?---Yes.

Is that where the development facilities were?---Yes.

Do you recall whether the film badges were developed in November 1956 at the village or whether they were sent elsewhere? Was that - - -?---Well, I am getting the vague impression in my memory that CXRL came into it at some stage but at what stage,

I do not know. In November, I would say, it was done in BL9 because that was the normal procedure during Buffalo.

Yes?---But I think there came a time when there was problem using BL9 and I think we sent them to CXRL because they had - they did the whole of Australia.

Right, paragraph 2.4 refers to water sampling, and refers to the samples taken from the bores from which water was taken, might have been contaminated by contaminated waste water from the wash-down points seeping through the earth, down to the water table and coming up through the bore?---Well, nobody had ever mentioned that but we, by checking the seepage tank or seepage pits, we, at no stage, did we find enough there to warrant about any problem from it anyway.

Did you find anything abnormal about the water when you tested it?---Well, I have got it all recorded. I cannot possibly remember off hand.

All right?---These bores were, these first lot were, forward area bores because we considered that they were more important. The actual bore numbers, I was told which bore numbers to monitor.

Who was the person or the persons that did that particular sampling, do you know? Was it yourself or somebody else?---Oh, no, not myself, it would be people like Frank Smith and Rex Brindley.

Yes, coming to the next report which is R32.2, paragraph 1.1.5 says that, under the heading, Lectures:

Whenever a sufficiently large  
number of new men arrive . . .  
. . . . . appertaining to the  
range.

That is report dated December 1956 - January 1957.  
Do you recall who it was that gave those lectures?  
---I probably did, I should imagine. I normally do.

Do you have any recollection now of those lectures taking place?---I cannot sort of remember the details, no, but I do remember that they used to accumulate, that if people came in in dribs and drabs, they would wait for a period in time till there was sufficient, say 20 or 30, and then give them a talk.

Yes, well, paragraph 1.2.2. says that in relation to the village area:

The few film badges that need  
to be issued . . . . .  
cold water to the tanks.

Does that assist you in recalling whether at that time the film badges were developed at Maralinga or whether they were sent to the laboratory or- - -? ---It would infer that it was done at that time at Maralinga.

Do you have any recollection of what the repairs were which had to be effected to the refrigerating plant?---No, none at all.

Do you recall whether there was ever any suggestion that film development, or the development of film badges was being impeded by lack of refrigeration facilities or faults in the operation of those facilities?---I do not recall but I would presume that you had to wait until the situation was considered to be suitable.

Now, in report R32.5, at paragraph 2.2.1, you refer to a radiation survey in the breakaway area, did that area leave a small depression, or did that explosion leave a small depression in the ground?---Yes, about one or two feet.

Did you ever see any evidence at any stage of any collection of water inside any of the craters after Buffalo or Antler?---I do not specifically remember, I remember that water, when it did collect somewhere, we would try and get a sample and analyse it, but which ones were done when, I would have to rely on the reports. We used to take opportunity whenever there was rain in an active area to analyse it.

Just to go briefly to two or three more of these reports only.  
Do you recall Mr Rickard - you have mentioned Mr Rickard,  
I think, already in your evidence?---Yes.

MR JAMES: Your Honour, perhaps before my friend turns to  
this matter. I have just been handed some documents  
relevant to both this witness and Mr Rickard, and  
in order to allow my friend the opportunity of can-  
vassing the matter, I feel I should put the documents  
very quickly to the witness to have him identify them.

MR McINTYRE: No objection, your Honour.

THE PRESIDENT: All right.

MR JAMES: Mr Turner, would you have a look at the documents you  
are now shown? That is the reference written by you  
for Mr Rickard on his departure in, I think, June 1959  
from your unit at Maralinga, is it not? That was for  
the purpose of his employment with the Atomic Weapons  
Research Establishment in Aldermaston, I think, was it  
not?---I do not remember - - -

But for his subsequent employment?---Yes, it was for subsequent  
employment, of course, yes.

You knew that was with the AWRE at Aldermaston?---I probably  
did, I do not remember now.

And consequently, that reference was truthful and correct as  
far as you could be at the time at which you gave it?  
---Yes.

Might I have that document? I would seek it in due course,  
your Honour, but - - -

Can I show you your report for December/January 1959? That  
sets out Mr Rickard's total dosage in his time at  
Maralinga of gamma radiation as 4.48 roentgens?---Yes.

THE PRESIDENT: Did you say yes?---Yes, yes.

MR JAMES: That dosage was obtained by you from adding up the  
various figures given to you by Mr Wood?---Yes.

That dosage was, in your view, no way likely to expose Mr  
Rickard to any danger?---Well, the recommendations  
are 5R per year.

I am not interested in the recommendations, I am interested  
in your view?---Well, I can only accept it from recom-  
mendations. My view is that as a result of what  
other people have said and they say that 5 rad per  
year is an acceptable dose.



Right. So that it would come as an appalling shock to you to learn that Mr Rickard has been diagnosed as suffering from a condition called myelometaplasia with myelofibrosis?---It does not mean a thing to me.

Arising directly from his dosage received at Maralinga, that he has embarked on the task of proving that and obtained a determination in his favour from the Commonwealth Government Employees - or pursuant to the Commonwealth Government Employees Act; would that appal you?  
---Why appalled? I would be surprised - if that dose is the correct dose and the ICRP say that 5 rad does not do this, then it is surprising.

That is the sole attitude you take to it?---On that data that you give me, yes. I mean, I have no way of saying anything else.

Was he not a man for whose safety you were responsible?---In the terms of dose rates, yes; and he got a dose rate which is within the limitation set down by ICRP.

And a disease. And a disease?---Well, I do not see - I am sorry.

MR McINTYRE: . . . . . his competence. That is a medical matter.

MR JAMES: I am putting it to him as a matter of already proven fact, your Honour, and we will undertake to prove it if my friend should wish.

MR McINTYRE: It is not a matter . . . . .

THE PRESIDENT: Yes, but I do not think it is anything on which this witness can give an opinion as to causation or relationship.

MR JAMES: Yes, no, I appreciate that, your Honour, I will go no further with that.

MR McINTYRE: I wonder if I could see the reference.

MR JAMES: Yes. In fact, I will offer to tender it, your Honour.

MR McINTYRE: Yes, Mr Turner, if you want to see this reference again, I will bring it across - - -?---No, that is all right.

You say in it:

An earlier youthful exuberance  
. . . . . may be relied upon.

Do you recall that as being the case?---I cannot recall the instance but there was a certain degree of - well,

youthful exuberance in a sense of rushing in and doing things without really checking it out.

And that changed later on?---There is a keenness in it, you know and I think, something associated with youth.

According to what you have written here, that apparently changed later on?---Yes.

You said that:

Prior to his work here, his primary interests were . . . . . application in health physics -

Do you know what experience he had had, if any, in health physics before he came to the range?---None that I know of, other than - sorry, let us put it, before he came to the range, let us say, before he came into the system, because he went to Mount Clarence first, which is not really on the range.

I think Mr Rickard is here and he will be giving evidence to the commission in due course.

THE PRESIDENT: Yes.

MR McINTYRE: I would just like to cover with you a few matters that you might be able to comment upon, which could be relevant. I have mentioned film badges and film badge development, and you have been asked questions about it by other counsel here. Was there only one person, whilst you were at Maralinga, who was responsible for whatever development of film badges occurred at Maralinga itself?---Between Buffalo and Antler, you mean?

Well, from Buffalo onwards?---From Buffalo onwards. I cannot - I have no - I just do not know at this stage, but obviously we were doing it in some way, but what way it was that we were doing it, I do not know.

Do you have any recollection of where the film badges were developed during Antler?---Well, during Antler, the British would be doing it - they would repeat their Buffalo techniques.

In the laboratory built for that purpose in the village?---In building BL9.

BL9?---BL9.

Now, after Antler, do you know who it was that had the responsibility for developing - - -?---Peter Wood.

He had with him some people to work with him?---Well - - -

Do you recall or not?---I think he often did it on his own  
but I think sometimes he borrowed one of our people.

Did you have any responsibility yourself for the development of  
film badges; in other words, was Mr Wood responsible  
to you for that activity to be carried out?---Well, BL9  
being a UK area, to which Australians should not go  
because it was designed for all their other work,  
I did not feel that it was my job to go into that  
area. I never intruded into UK space.

Did you ever go inside the laboratory? Did you ever go inside  
that building which contained the developing  
material?---No, not BL9. I went into BL4, BL5 and  
BL6; also I was invited there.

There was an optical densitometer used, was there not, to measure  
the - - -?---I never saw it.

You never saw it?---No.

Did you ever see any film badges being developed in that  
laboratory?---No.

Did anybody ever tell you, after Buffalo, that there were a large  
number of film badges found lying around that were not  
developed?---They may have. It is a guess that by now -  
at this point in time, I just do not have memory of  
general specific incidents, general in the sense that  
they were not outstanding. I just do not remember  
at all.

Well it may be that there will be an allegation that there was no radioactive sources present which were suitable to calibrate the optical densitometer?  
---We had cobalt 60 - - -

Please wait till I finish the question.

THE PRESIDENT: I do not know what special gift it is you have enables you to know what a question will be before it is asked, but we would all be helped if you would wait until it is asked?---All right.

MR McINTYRE: You said you did not see the optical densitometer; nevertheless are you aware of whether there were any radioactive sources at Maralinga after Buffalo, and if so what were they and where were they?---Cobalt 60, my memory says a 1.3 curie and a 1.1 curie, in XA9 and those - - -

By XA9 you mean - - -?---It was a radioactive store building at the very beginning of the XATM area, as you entered - - -

Before you go on: from when was it that that cobalt 60 source was available?---It was during Buffalo, because they use it as - it is one of the sources they also use for testing the weapon, and cobalt 60 radiography.

Apart from the cobalt 60 source, were there any other radioactive sources available after Buffalo?  
---Well they remained there.

Yes, but apart from the cobalt 60 that you have referred to?  
---Well there were other sources there but cobalt 60 was the one we used for the calibration.

Did you use it for the calibration of any other instruments?  
---Yes, at times we would set it up for 13/90 calibration and there are other sources as well but cobalt 60 was one we used for that.

I take it that you are aware of the construction and function of an optical densitometer?---Yes, in general; not that particular one.

Are you aware whether or not the cobalt 60 source that was available for calibrating other instruments could have been used for the purposes of calibration in the development and measurement of full badge doses?---Yes, I did actually see that being done. It can be done at the back of RB1. You expose the source to a circle of film badges for a given period of time, knowing the strength of source at that time, because you calculate by decay; you can work out what the dose should be, you develop and

then then that gives you a point on the densitometer on the curve.

It is the case, is it not, that you have to assess each batch of film that is being developed before you can match it to the appropriate point on the densitometer curve?---Yes. Each batch number.

That is where the calibration comes into it?---Yes.

Do you ever recall hearing of any occasions when, for one reason or another, a film badge was unreadable - that is, it was undecipherable after being developed - and of people endeavouring to reconstruct where that person had been and for how long he had been there, to try and arrive at some kind of possible radiation dose?---I have not heard of it, but I could imagine somebody doing that in order to - particularly if two people went together and did the same job, that kind of thing, but I do not know of it.

If that sort of thing had occurred do you think it might have been referred to you - reported to you?  
---It - - -

If it involved some of your people?---It would have been wiser to have done that, yes.

Coming to the cobalt 60, you mentioned I think yesterday that you thought that there were some scoops manufactured and used for the collection of the cobalt pellets?---Well I did not have anything to do with that directly, it is in the hands of the course instructors, and I gained the impression that they were going to have long handled scoops that would pick up not only the object itself but the general soil around it and put it into some container and take it away. That is what I thought.

Do you recall whether it was the case at that time, upon that recovery, the members of the health physics team had had such an exposure to radiation that they were not permitted to go near such a source?  
---No. It is more the case, again, general practice, that if you can distribute dose over a larger number of people this is wiser than concentrating it onto a small amount of people.

And how long was the course there for?---I think something like three weeks.

Had they had any radiation exposure particularly, did you know, before that course?---No. To my knowledge

this was their first experience, first course they had been on and they would be unlikely to go back into that environment for quite some time.

What was the purpose of the course?---To give them experience in detection of radiation and the monitoring facilities in radiation survey-type experience.

Apart from the cobalt 60 on the range, were there any other comparable sources that might have produced a similar effect on the instruments?---Well, there is the various crater areas, but the - I think the greater interest in this was that here you were looking for a specific point source whereas the crater area is just a general radiation reading, it does not have the same field as a point source would have..

Now do you recall whether any of the non-service people, that is the non-army, navy or air force people that were working with you, were paid any overtime in forward areas?---Again, it is my recall is that there is a standard overtime. I think people got something like 60 hours or it might be 70 hours a week was standard overtime, and I do not think you got extra overtime beyond that standard. I am a bit - I cannot be absolutely sure.

Do you have any recollection of overtime being only available to people working in the forward zone?---Overtime only available in the forward zone?

Yes, do you have any recollection of that?---That does not make sense to me, overtime is overtime.

Well, do you have any recollection of that being the case or not?---No, no.

Do you have any knowledge of any people in your group leaving their film badges and dosimeters in their vehicles when they went out to perform tasks to minimize the recorded cumulative dose they received?---Nobody ever told me that.

Were you ever suspicious that that might be occurring?---No, I did not.

Your Honour, I will be another ten minutes.

THE PRESIDENT: We will adjourn now.

LUNCHEON ADJOURNMENT

THE PRESIDENT: Go back into the box, Mr Turner, will you, please. Yes, Mr McIntyre?

MR McINTYRE: Mr Turner, there is one final matter from what Mr Rickard may say. I would like to give you a description of an occurrence and see whether you can identify it and, if so, comment upon it. It appears to relate to the DC12 building, which I think was the slide you showed us yesterday of the high metal stack and the filters. I would like to put this part of a statement to you and just ask you to wait till I have read the whole extract and then ask for your comments:

During the period between minor trials  
it was our responsibility -

this is a statement of Mr Rickard -

it was our responsibility to maintain  
. . . . . most probably plutonium.

Firstly, was it your responsibility during the trial, between the minor trials periods, to maintain the building?---I would not call it maintaining it. Maintaining in the sense that the pressure had to be maintained at a negative pressure inside the hot box; and - but this is largely a matter for the engineers. They had a coventry climax nearby. They could switch in if the main power were to switch off. But this really was outside our jurisdiction.

The statement goes on to say:

There was a lot of radon gas given off.  
. . . . . large metal ducting  
system.

Did that radon gas continue to be given off during the time between minor trials?---Yes, it is - a certain amount is given off. In my monthly reports I have - and also in those other things - I have given the details; and I am sure you will get more information from those.

I am just leading up to some more important parts of the statement. It says:

The idea of this was . . . . .  
. . . . . some other isotope.

That is what you have covered yesterday. He said:

There were two large filters . . . . .  
. . . . . was being hindered.

He is talking about replacing the two filters with two more filters apparently. He says:

This was measured because there was  
. . . . . to be replaced.

Do you recall any kind of a water pressure gauge which had some function in relation to the filters?  
---No, I am sorry. Here again we are dealing with a UK area, and that kind of detail was left to them. Now, it is quite possible that Mr Rickard knew more about it than I did.

Well, I am just asking you for your own knowledge, Mr Turner. Did you have any knowledge of any kind of water pressure gauge type of that nature?---No.

He goes on to say:

These filters were large steel boxes  
. . . . . duct work.

Now, you showed us a slide yesterday showing a crane lifting out a section of what I thought was the filter system. Does that description I have read to you suggest that that activity being described is what we saw on the slide yesterday? That is, these filters were large steel boxes with flanges at either end, where they connected on to the rest of the duct wood:

It was necessary to use a crane  
. . . . . rest of the  
duct work.

Does that description suggest to you the changing of filters that was seen yesterday on those slides or not? Or, if not, can you comment upon what I have just read out?---Yes, I think so. I - you know - I cannot be sure of those things.

I will just read on, "This meant that after" - sorry:

This meant that one period  
. . . . . exposed  
to the atmosphere.

Would that occur, that filters would be exposed to the atmosphere?---Yes, it had to be, yes.

He continues to say:

People had to be there . . . . .  
. . . . . name was Peter something.



?---Pat O'Connor - - -

Peter?---Pat O'Connor.

Pat O'Connor. Well, did any of the Australian personnel at Maralinga at that period have any function in the removal or replacing of those filters in the manner that has apparently been described here? ---By rights, no. It should have been a UK operation entirely.

Well, the slide we saw yesterday of removal of a section of filter, was that being done by UK personnel or Australian personnel?---No. Well, we had several slides. The ones where they were set up more thoroughly, that one was more of a UK operation, and we had a lot of DC people and technical unit people arrive for it. But the first one was done more simply, because it was not - it did not have the contamination that the second one had, the second filter. They are different years.

There is one slide in particular that showed two people without wearing face masks or protective clothing?---That is right, yes.

What was that function they were performing then?---Well, it is obviously removing a filter. But I am - at this - I apologise again, I just do not remember those details.

You say you cannot recall. That is - you just say that? ---Yes.

The statement went on to say:

We had no proper breathing equipment  
. . . . . some equipment.

and I will just read on:

For the first filter change episode  
. . . . . new filter bolted in.

Now, taking it that far, do you have any recollection of that event?---To my knowledge I was never told that.

Well, if those filters were being changed on that DC12 - - -? ---Yes, I knew that - - -

- - - would that have been a matter that you would ordinarily have expected to have been aware of?---I would have expected that somebody would have told me if there was a problem or a hazard, yes.

How often were the filters changed, do you recall?---Twice, that I can recall.

Twice, in the time you were there?---In the whole period of time.

Right. And are both those occasions recorded on the slides you showed us?---As I understand it, yes.

Does the description that I read to you, of the gas masks coupled with a pressure hose connected to a small air compressor ring a bell as to anything you ever saw there?---Well, it would have to be a self air set, but - - -

Do you recall any of those being there?---The self air sets that I recall were in the second operation. I do not recall them in the first operation but I did not see that.

Well, the statement goes on to say:

For the second filter -

That is the second filter being changed, I assume :

knowing the problems we had with . . . . .  
. . . . . air supply completely.

Do you recall any apparatus such as that using vacuum cleaners - - -?---No.

- - - and plastic tubing cups. The statement continues:

It became necessary for me . . . . .  
. . . . . safety hazards.

Well, you say, do you, that to your recollection the filters were only changed twice whilst you were at Maralinga?---To my recollection, yes. The - I think in 59 and 61.

Then on the first occasion when they were removed, do you say that is the slide you showed us showing the two persons without wearing any protective apparatus? ---Was Peter Wood there all that time?

Well, I am afraid I cannot tell you that, Mr Turner, but on the occasion of the first removal of the filter that you have described, was there any threat from ingestion from any materials lodged in the filters? ---Inhalation, you mean?

Sorry, inhalation by persons working on removing the filters? ---Only if there is parent material on the filters - - -

All right?---You see, what should be on the filters are the daughter products which decay very quickly and do not create the problem that the parent does. The parent is constantly giving off gas. Now, theoretically there should be no parent there but at this point in time I cannot - I do not know what the - I just do not remember.

Having shown us the slide yesterday, showing the people with the - - -?---I would say under those circumstances that there is no problem.

Now, is it your recollection that the second time the filter was touched was when the additional filter was put into the system?---No, the second time was when we were removing the new lot of filters which had now become contaminated and they had the parent on them. That was the problem.

Right. When was that done, do you remember?---That, I think, was 61, 62, something like that.

Was that an occasion when there was any need to wear protective apparatus?---Yes, that was much more of a problem.

And is that shown on the slides?---That was shown in some of those slides, yes.

Do you recall whether Mr Rickard was involved in that exercise? ---I do not think he was there, he had gone by then, I think it was Graham Newgreen.

Well, does that description I read to you of the activity of replacing a filter ring any bells with you at all, as far as your recollection is concerned?---No, I just do not -- I mean all these things are new information to me as I understand it, as I remember it. But, I am getting to the stage now where I am prepared to believe anything.

I will not take you that far. What is your comment upon what I have read out, as to its - - -?---I am surprised.

A couple of more general things, Mr Turner. There has been reference made yesterday to fall-out monitoring along the north-south road, that is across towards Coober Pedy, I think, along the highway. And you were asked whether it was a safety measure done to measure the fall-out, or what was the reason for it. Was it the case that there were any maximum total doses that the members of the Australian public could be exposed to by way of fall-out for any of the major trials. That is, was there a total dose that the safety

committee had set for the Australian population for Buffalo or Antler?---No, the highest dose that I can recall being registered, was that 3 milli-R per hour at Coober Pedy and that measured, at that particular time, is such that within a day or so it is nothing.

But was there, do you recall - and if you cannot recall, tell me - any total dose that the test safety committee had laid down beyond which members of the Australian public were not to be exposed. A standard set, do you recall that?---I do not know what the safety committee laid down but I am quite sure it would not come within the region of any problem.

I am suggesting that - what I am getting at is do you know whether or not - and if you are not sure, tell me - whether the function of monitoring on the north-south road had in part its object to assess the cumulative dose to which various areas of Australia had been exposed to ensure that the total dose for the population in a given series did not exceed some laid down standard or limit?---Well, you could not really extrapolate the readings along the north-south highway to the whole of Australia. We had a large number of fall-out stations to do that, and that is the way that you interpret the results.

Now, the discovery of cobalt 60 by Mr Rickard, that was detected, I think, some months after the Tadjetest. Would the effects or the presence of cobalt 60 have been masked for some time after the Tadge detonation by the presence of fission products and general fall-out? ---Yes.

Is it surprising that the Cobalt 60 was not found before that or would that be something you would expect with hindsight which occurred then?---It is not surprising, no.

You mentioned a trip you had with others around the aboriginal perimeter track in 1957. I think you said it was with Mr Flannery, was not it?---Flannery, yes.

Anybody else or just the two of you?---There were four of us, I think Tom Murray - I cannot think of the fourth one at the moment.

At whose suggestion did that trip take place?---I cannot be sure, I should imagine it was through discussions between Alan Flannery and myself that we decided that this was probably a worthwhile operation but I cannot remember where it started.

Now, finally, I think, Mr Turner you - reference has been made to that part of your statement on page 18 which refers to a report, and I will just read it out. Do you have your statement there?

MR McCLENNAN: You may use that one, Mr Turner?---Oh, thank you.

MR MCINTYRE: Halfway through, or on the third line of paragraph 2 the statement says:

Apart from the animals used . . . . .  
. . . . . was as follows.

And then there is a summary of the incident. Now, I think you arrived in Sydney on Sunday afternoon, did not you?---Yes.

And an officer of the commission interviewed you, I think, when you arrived here?---Yes.

What time did that start, approximately?---2 o'clock.

And what time did you finish being interviewed?---7 o'clock.

You were interviewed on Monday as well?---Yes.

Now, you said in evidence that, in essence, your statement is what your memory is and you have referred - - -?---Yes.

- - - at times to your reports and to the health physics file and other letters, and you were shown in evidence by my learned friend Mr McClelland on Monday, I think, the particular report dated 31 May 1957?---No, I was shown a - - -

You were shown by Mr McClelland on Monday, in evidence, the report dated 31 May 57?---Yes.

Right. Now - on Tuesday - now were you shown any documents in the course of your statement being taken or your interview with the officer of the commission on the Sunday or Monday?---I was shown a sheaf of papers about that thick - - -

You are indicating what, about 3 or 4 inches?---Well, about 2 inches thick, it was, or something like that.

Please, just take it step at a time?

THE PRESIDENT: Mr McIntyre . . . . .

THE WITNESS: Is it? Oh, well, it is only one inch then.

MR McINTYRE: Perhaps, if I may approach, your Honour.  
I show you a bundle of photocopies that have been passed to me by counsel assisting the commission; do you recognize that bundle of not?---I recognize the top page, those two pages, not those - - -

Wait. You read pages 1 and 2, which were in handwriting?---Yes.

And the ones you have said, not those, is a typed letter addressed to the Director, Department of Health, signed by Mr O'Connor. What else did you read?---The next lot of writing - - -

Sorry, you read the next lot of handwriting which is a letter addressed to dear Joe, and apparently in your handwriting?---Yes.

Did you read anything else?---I may have glanced at that one, I did not read it, that is about as far as I got. Hang on, I did read that page.

You are referring to the third page of a letter dated 16 January 1957, addressed to dear Joe?---Yes.

Thank you?---Yes.

Did you read anything else?---Yes, I read that part, yes.

Yes, but did you read anything else?---No, that was the lot, there was not time.

All right, we will come back to that. Were you shown or did you read at the time those documents were passed to you the report dated 31 May 1957 - - -?---No.

- - -addressed to the range commander about kangaroos?---No.

When was the first time that you read that report?---Here, when I was sitting here.

Did you have any time to read all the documents in the bundle that I showed you a minute ago?---No, only those handwritten pages.

I am not trying to seem to be critical of the way the statement is taken, I just want to establish what the facts were, as you can recall them: when the statement was being

taken were you writing it out or was it being dictated by somebody into a machine, or what?  
---I cannot recall. I think there has been a part put in.

Before we come to any individual parts, was the method of taking the statement one of dictation into - - -?  
---Dictation into a machine.

Was one person dictating it or more than one?---Two.

Who was dictating, the officer of the commission, was he dictating some of them?---He dictated some of them.

And were you dictating some?---I dictated some, yes.

Do you recall the words being dictated that appear on page 18 which refer to "the report which I prepared for the range commander on 31 May 57" and then the words:

I have looked at this report  
. . . . . was  
as follows:

Do you recall those words being dictated?---No. I do not recall - I certainly did not do it myself and I am not aware of it being dictated, but I am not sure.

In the next paragraph there are details recorded of your noticing kangaroos at Woomera?---Yes.

And your being called in to check the radioactivity. Your visit to Mr Sharman?---Yes.

And the explanation of dehydration?---Yes.

Now, that I take it, was information you gave to officer - - -?  
---That was what I dictated, yes.

Did that information come from your recollection or from - - -?  
---From my recollection.

Now, I think that you recall we did not start sitting until about 11.00, 11.30?---Something like that.

Are you aware that your statement was still being typed up from the tape recording?---Yes, is it?

THE PRESIDENT: It was Tuesday, anyway, we did not sit on Monday.

MR McINTYRE: Did you sign the statement later on?---Yes.

When did you sign it?---At the end of - must have been at the end of Tuesday's session.

What time of day was it that you signed it?---Well, it ends at 5.00, so, I suppose, about five past five.

And do you know whether - I withdraw that - was that paragraph in that form in the statement when you signed it as far as you can tell?---It must have been.

Did you read it before you signed it?---Not in five minutes.

Did you read much of it?---No, I did not read any.

Thank you.

THE PRESIDENT: Before you start, Mr McClellan, Mrs Fitch would like to ask a few questions.

MRS FITCH: Mr Turner, could I ask you a couple of questions relating to these monthly reports?---Yes.

Your report of February 1957, which is R32.3 makes mention of the health physics caravans having been modified or requiring modification. I do not know if you can recall this or you would like to turn up the report?---32.3, you say?

32.3 which is the report of February 1957?---My 32.3 is - here we are, yes - it is 1959, according to this, December 59 to January 60, is that right. I have got 32.3 and it says December 59.

That is 32.30 I think. This is just 32.3?---I see. Yes, what page would it have been?

Page 2. Right at the top of the page 1.2.2:

The health physics caravans  
are being modified -

that presumably relates to some modification after their use in Buffalo and before Antler. Do you recall what that modification was?---Not really. The directions for those came from the UK as an order to the range, the range engineers had to follow whatever these changes were and part of the exercise was to convert the caravan from being just standing on the ground to having it alongside a platform so as to make it easier for people to go from caravan to caravan. That would be part of the modification to suit the new platform arrangement but probably there are mechanical repairs and electrical repairs are needed: but it is right outside my province. I am only reporting the state of readiness because I felt



that people in the United Kingdom might be interested to know that work was progressing for what would be ultimately part of the health physics site: but I had nothing to do with it directly.

So you are not aware whether that modification had anything to do with a deficiency in the arrangement of the caravans - - -?---I do not think - I should imagine it is very much a mechanical - I do not know what it - not to do with the operation.

Now, those reports, a number of them refer to air sampling results and in many cases the results are quoted in terms of particles of greater than or less than 1.5 microns?---This was the division in the cascade impactor that the final collection is on the filter paper and that was according to my information constituted particles less than 1.5 microns. Then the four slides that were above that, they were covering different regions, different particle sizes and I was taking at that stage the division at the 1.5 micron mark.

Were you taking that because you thought that particles of less than 1.5 microns constituted an inhalation hazard?  
---Yes.

Now, much later in these reports, in June 1961, it is report number 32.45, do you have that one?---I have got the - yes.

Page 3?---Yes.

Under 3.1.1 there are some readings of alpha activity in the Taranaki region after Vixen B?---Yes.

And you have selected three sites, A, B and C and there are records there of alpha counts, now just above table 2, there is a sentence which reads:

There was a hot spot near site C  
of 24Q counts per second alpha.

?---Yes.

Do you have any recollection now of that hot spot?---No, these measurements were done by Peter Wood and I am again relaying his information, but I have since, in 1977, did some work on the hot spots and they were still present in that area then. It is just a piece of plutonium that was left there; it is just large enough to be more active than a distributed piece, like the particle is large enough in size.

Were you aware, or did Peter Wood ever discuss with you back in 1961 the question of these hot spots?---Well, yes, that is why it is here; he told me about it and I wrote it down, but these areas are out of bounds to people and well, at the beginning, it was possible to pick up pieces of plutonium that you could visibly see - I mean just a chunk of plutonium and you would pick it up and Peter Wood used to go out with a bag and a pair of tongs and pick them up like the . . . . .  
. . . . . you know in the army, and just fill up - not fill up, put them into this bag and then take them back to the UK people. It was just like that; pieces were floating around, and then they had a number of searches scouring for these pieces gradually reducing the size until it was no longer obvious by looking around the ground, and what is left are these sizes less than that and they are these hot spots; they are the larger lumps which are not obviously visible, but still quite active, and some of these pieces were left there in 77.

Did you have a concern in 1961 about the long term implications of these hot spots?---Oh yes, I had a concern for the whole of the - all the plutonium areas; this is a real nasty problem, what is going happen. But the hot spots on their own, while you have got a fence and control over people who go there and all that sort of thing, you do not allow people just to go there for any purpose other than surveying or where they are working on a test site, which the test sites were - they are clean areas and progressively moving away so that the active areas were always kept to one side.

Now, while that was going on there was some measure of control, but the problem lies is when the people leave, then there is not that measure of control.

Was the distribution of hot spots mapped in 1961?---I do not know. Well, I have said massiveness, it certainly was massive at the beginning after an explosion because they are pieces of a thumb-nail size just sitting around.

I am sorry, was it mapped?---Oh mapped, I thought you said massed. No, no. Again, there is this problem of manpower, Peter Wood was virtually on his own in doing all this and it is quite - - -

So he just took it upon himself to go and pick up as many as he could find?---Yes. I am reporting these to the UK government so that they can do something about it if it was of concern to them. I am making a statement that this is what we find, do you care? - that is really what it amounts to.

What sort of response did you get to these reports?---Very little; I was assured they were all read with great interest, that is what they tell me, but I think only two or three times there is some actual response to it as an independent response; I might write separately a letter and get a response to that, but as far as the reports are concerned, it was very rare that anything happened.

Were you aware who it was at AWRE who read these reports?---I am sorry?

Did you know who it was at Aldermaston who was reading these reports when they were received?---Well, I do not know specifically, but I should imagine Geoff Dale ought to be one of them or somebody who communicates with Geoff Dale. It is his major concern, but I would also imagine that the trials people that were - each trials section would read it, so as they would appreciate what was happening; I really do not know what they do with it at Aldermaston.

And did any of those people ever write back to you with suggestions as to how you might measure things?---No.

Other things you might do?---No.

What were your duties in relation to toxic areas?---It is a good question, I am glad you raised that. We had no way in which we could do it ourselves, so - - -

Do what?---Survey the area; we had no means of surveying the beryllium. So periodically about every month or so a series of samples would be taken from the area

and sent back to UK where they did the analyses of it, and it would take about six months or more before we got an answer, then when we did we got a whole lot of data coming back at once, and usually they were saying that it was all right, but it was not within our capacity to determine beryllium content, so we had no idea for at least six months until we got our first set of replies back as to whether that particular Beryllium area was a problem or not.

And these were soil samples were they?---Soil samples.

And were you told where to take the samples, or did you use your own judgment?---Own judgment really, just - you know the firing site and you take them from different points round about. You nominate where they are and then see what the result is.

Was there every an occasion when a result of concern came back?  
---No, no, fortunately it did not, but if it had, it would have made it worse because there is this interim period when I could not really allow anyone into that area until we knew that it was okay.

Did you have training or experience in dealing with chemical hazards?---Not at all.

Did anyone on the range?---No.

What were your duties at CXRL when you went back once a year for a month or two?---Mostly low-level counting, developing systems to measure activity at a very low level. We were doing up-takes in wheat, various agricultural products grown throughout Australia; this is from the result of the fall-out as a whole, and we had to have very special equipment to get down to those ultra-low levels.

Was there one particular person, Joe Richardson, or somebody at CXRL with whom you corresponded if you had any problems, scientific problems on the range?---Well, Joe Richardson, initially, and then my visits to Melbourne became sufficiently frequent at different times so that I could do it on a personal basis, I did not have to go.

So they were your scientific back-up in a way?---Yes, they could provide extra back-up if I needed it.

Did you often need it?---No, no, only some more detailed analyses which you will see in my later reports where I was using their beta spectrometers so as to get a better analysis of some of the specimens we had, particularly when we were dealing with herbage analysis and those things.

Yes. Now I think you said earlier, I did not quite catch what you said, but you were talking about the sampling of bores, in the forward area, I think you said that somebody else told you which bores to sample?---Geoff Dale I think it was said that they would like a water sampling programme, they recommended the following bores to be sampled.

So did you exercise any judgment at all over water sampling?

---Yes, they were the ones they wanted and then in addition, we would do others and we would sample rain water, fresh water from different tap systems. Anywhere we could find water we would sample it, from delay tanks, from the airfield washings, from everywhere we could get water we would do water sampling.

Lastly, you said yesterday, I think it was, that the burial of some long-lived radioactive material in an otherwise clean area, ie the airfield cemetery, concerned you. Were there any other instances of disposal or dispersal of long-lived radioactive materials around the range that concerned you?---Yes, all the plutonium ones, TM 100, 101, Vixen A, Vixen B, all those.

Do you mean the dispersal on the ground or local burial?

---Both.

Are you aware of any of those burial sites which were not subsequently moved to a safer location?---In the case of TM 100 I think there was some transferral material to consolidated pits, but in the other cases, they just remained as burials. I recommended fences; I think they actually were erected after I left, but then they got pulled down again.

What about perhaps lesser amounts of radioactive material going into soak-aways and that type of thing?---By the washing downs and soak-aways?

Yes?---Well, we kept those under surveillance, and they never at any stage became - they were always very low level. To sum up, generally speaking, we had very little problem with fission products.

I am not so concerned about fission products, I am thinking more about the long-lived materials that were in use?---I thought you meant the special soak-aways that we used in the different operational areas. They were just fission products, we did not have any plutonium from there. Where the plutonium was there is no dispersal pit for watering material though. I do not know how they managed it, but they did not have any.

Thank you.

MISS HUNTER: If your Honour pleases, for your information, my name is Kathy Hunter from Daniel Brezniak, solicitor. I am a solicitor, we act for ANVA, New South Wales.

There are many questions, your Honour, that we would like to ask of the witness and I am instructed to seek permission that the witness be recalled at a later date.

THE PRESIDENT: What do you say to that, Mr McClellan?

MR McCLELLAN: Your Honour, that is a request that I have not heard of and the appropriate course to take would be that perhaps if I could have communicated to me the reasons for the request I could consider it in due course.

MISS HUNTER: Your Honour, as yet ANVA, New South Wales has not been granted legal aid for counsel to appear, and I am instructed that counsel would want to ask questions of the witness at a later date.

THE PRESIDENT: Well, if you convey your request to Mr McClellan and the details of what you want to ask, we will give consideration to calling the witness at a later date.

MISS HUNTER: Thank you, your Honour.

MR McCLELLAN: May I say at this stage, having regard to the nature of the issues before us, I have in my mind the possibility that Mr Turner may need to give evidence at some later stage in any event.

THE PRESIDENT: All right. Mr McClellan are you ready to re-examine? Before you start, I do not think you have actually tendered - - -

MR McCLELLAN: I was coming to that. Mr Turner, through Mr McIntyre, you have told the commission of your recollection, as I understand it, of what happened when the statement was taken from you?---Yes.

Mr Turner, did you mean by the answers you gave to suggest that the information contained on page 18 of the statement which is now before you is not accurate? ---Yes, I am afraid so. I did not look at the report before this was prepared.

Mr Turner, can I suggest to you, and I am sorry to have to do it, but that statement that you have just made is not true, is it?---I have no recollection of seeing it.

Mr Turner, what happened was this, was not it? On Sunday afternoon, you sat down with Mr Lewis who is behind me, with a dictaphone, and this bundle of documents which I have in my hand, and you had a detailed

discussion with him in relation to a number of matters? Is that true? What he did was he took you to various documents contained in this bundle, put them before you and discussed them with you, did not he?---I do not remember anything to do with the kangaroos.

Just deal with my question. That is what happened, is not it?---Yes.

I suggest to you, sir, that in the course of that conversation both you and he, from time to time, spoke into a dictating machine?---Yes.

That is correct, is not it?---Yes.

From what you spoke into the dictating machine, a draft of your statement, of which I have part here, was prepared, was not it?---Yes.

And this draft was then typed by means of a word processor into the form which I have in my hand?---Yes.

You recognise that draft do not you?---Yes.

That draft was then given to you on Monday was not it?---Yes.

And you were given the opportunity to make detailed corrections to that draft on Monday afternoon and Monday evening? ---Yes.

You took that opportunity?---Yes.

And you made detailed corrections, did not you?---Yes.

And indeed what you are now looking at is page 19 of the draft which contains the information in relation to your recollection of the events related to the kangaroo? ---Yes.

On that page you have made in your own handwriting a number of detailed corrections and deletions?---Yes.

In particular you have made corrections to the paragraph which in the draft read as follows:

The only other incident which related to animals was a report of kangaroos in the Woomera area and this was the subject of a report which I prepared for the range commander on 31 May 1957

?---Yes.



Now, you have made three changes to that sentence, have not you?---Well, I merely crossed out what somebody else had put.

No, sir, you have made three other changes to that sentence? You have crossed out the word "the"?---Yes.

You have crossed out the word "which"?---Yes.

And you have changed the small "r" in range commander to a capital, have not you?---Yes.

The very next sentence says this in the draft:

I have looked at this report and have used it to recall the incident which as far as I am aware was as follows

?---Yes.

You have made no alteration to that sentence at all did you? ---That is true.

You clearly read the sentence did not you?---I follow your terms of argument, but I can still say that I just do not remember that particular document. I just do not remember it.

The next paragraph starts:

This is after the 1957 trials. It was some time after a trial -

and continues with another five lines?---Yes.

You have made numerous changes to that next paragraph, have not you?---Yes.

In your own handwriting?---Yes.

So we have the situation, do we not, that the sentence before the sentence, "I have looked at this report and used it" and so on, you have made changes to?---Yes.

Three, to that sentence, and the sentence immediately after you have made numerous changes to, have not you?---Yes. This is the one I was concentrating on, this one here.

It is just not true to say that you did not read the statement which you prepared with Mr Lewis before you signed it?---No, that does not necessarily follow.

The precise words which appear on page 18 of your statement are contained, are they not, in the sentence I read to you on page 19 of the draft?  
---Yes, but the fact that I did not alter it - - -

MR McINTYRE: I object to this, your Honour. As I recall it, on Tuesday before lunch, my learned friend put to the witness that he had deleted from the draft reference which had been put in after interviews to the report to the range commander dated 31 May 57.

MR McCLELLAN: DC12.

MR McINTYRE: In that case I stand corrected. I accept my friend's assurance, I withdraw the objection.

MR McCLELLAN: I will just indicate what I indicated to the witness on Tuesday was that the information in relation to DC12 had been deleted in the course of typing.

MR McINTYRE: I withdraw the objection and apologise for interrupting.

MR McCLELLAN: That is the position, is not it, Mr Turner? The precise words contained in the sentence which I read to you from page 19 of the draft have been incorporated into the final document without change by you at all?---I agree with that statement, but what I am trying to say at this stage is that I was not concentrating on that paragraph - it was not the paragraph. What I was concerned with were the words that I had spoken into the dictaphone and was not happy with what was said because 9 times out of 10 what I am saying into a microphone I am not happy with what I said, and I concentrated on that. I did not bother concentrating on that previous paragraph, except I changed a few simple things.

You made three changes in the other sentence, the only other sentence in that other paragraph, did not you?---Well, I am sorry, what I have said is actually what happened. Now, I can see that you can draw other inferences, I agree with that, it does look that way, but I repeat, what I said is true, and - - -

I suggest to you Mr Turner you were indeed shown your report on kangaroos dated 31 May 1957 at the time you prepared the draft statement?---Well, if I was shown it, I did not read it.

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O.H. TURNER

I suggest to you that not only did you read it but you discussed it with Mr Lewis and from that statement and that discussion you dictated the paragraph which follows in relation to the events relating to kangaroos at Woomera. Now, do you not deny that?  
---Well, do you think that - - -

Do you deny that, sir?---I deny because I did not say - I deny the fact that I saw it. Now, if you compare what I said with what is in the report - - -

Sorry, could you come back to my question.

THE PRESIDENT: Just answer the question.

THE WITNESS: I deny it.

MR McCLELLAN: You deny that, do you?---Yes. I have no recall of seeing that. When it was presented to me there is the first time I saw and there are items in there that were completely new to me. Now, if you read what I wrote, I do not think you would say that was a logical follow-up from that report. It is a memory situation, not a report one.

Mr Turner, you have signed these statements now before you?  
---Yes.

Is everything in that statement true and correct?---In this statement?

Yes?---Well, you mean apart from this one that I was discussing there. I really do not know. It probably is in the main. Whether there is something I have overlooked in terms of a word here or there, I do not know. I cannot answer that absolutely, but in general, yes.

If I can take you back one step. You know, do you not, the statement that is before you is the retyped version of the draft which you with Mr Lewis prepared in the offices of the commission. You know that, do not you?  
---Yes.

That retyped version was prepared from the word processor?---Yes.

After you had the opportunity, as I indicated previously, of correcting the draft in detail?---Yes, and I failed to correct that point.

Is there any other point that you failed to correct in this statement?---It is quite possible. I mean, things are done in a great hurry. I was working for long hours.

Well, are you prepared to say that that statement is true and correct?---Am I prepared to say that is still incorrect?

Are you prepared to say that the statement before you is true and correct or are you not prepared to say that?

---I - that statement, I have looked at this report and have used it to recall the incident which, as far as I am aware, is as follows; that I dispute.

Is there anything else then that you dispute?---Out of the whole lot? Well, not that I am aware of at this moment. If I - - -

Would you like the opportunity to further consider the statement? ---It is a little unrealistic, is not it?

No, sir?---What, you mean to sit down and read it now?

Well, at some later time. Would you like that opportunity? ---Yes, it would be an opportunity - worthwhile.

Perhaps you would like to do it overnight?---What, stay here in Sydney?

Would it involve that?---My aircraft is booked at half past five.

I am sure we can make other arrangements in relation to that if need be?--- I would rather - - -

MR McINTYRE: Your Honour, with respect this witness has been here since Sunday. Mr Turner, please. He has been here since Sunday afternoon. He has given the commission the benefit of his time ever since then. He has a wife back in Murwillumbah. He has been given probably more time than any other witness in the commission. He wants to read the statement in his own time and correct it. He can post it back to the commission. Mr Turner has expressed the desire to meet the half past five flight. In my submission, that is quite an understandable request. If he wants to change the statement when he has time to sit down in detail and reflect upon his records and read through it then, of course, he should be given the chance to do it. But to require him to remain here overnight would, in my submission, place an unjustifiable burden upon him and, in all fairness, an unwarranted intrusion upon his own time. He has given a lot of it so far, your Honour. I would merely make that submission.

THE PRESIDENT: Well, Mr McClellan, I think that is a reasonable submission that has been put by Mr McIntyre. After all, if you are mounting a wholesale challenge to the veracity of this document which seems to be what you are adumbrating, I think that Mr Turner is entitled to a more leisurely examination of the document before he is examined in such detail on the matter. I think what Mr McIntyre suggests is the just way to deal with Mr Turner.

MR McCLELLAN: Yes, your Honour. At this stage then I will not tender the statement, if your Honour pleases.

Mr Turner, can I take you to just a few other matters?

Firstly, is the position that you put to the commission that your memory is deficient in relation to many of the events that occurred at Maralinga?---Some. I would not say a great number.

Does memory give you trouble from time to time or not?---I guess it is these days, yes.

Is the position that very often you find you cannot remember earlier events, in particular the Maralinga days? ---Yes. Well, each time I see a document that comes from those days it is completely new to me. I would have no memory of that document as such.

So, could it be that in relation to - and I have in mind the account Mr Rickard gives of the changing of the filter - could it be that your memory is just deficient in relation to recollections of that event?---Well, you said a little time ago my time here has indicated that could well be the case, I - - -

Tell me, when you spoke with AIRAC did you indicate to them that your memory could be deficient in relation to various of the events?---No.

In relation to that change of the filter, you have been shown - I do not know whether you now have a copy of the letter of 27 June 1958. Have you got a copy there or not? You were reporting then to AWRE. Mr Halliday and Mr Wood are named in that report?---Yes.

Mr Halliday and Mr Wood are both Englishmen are not they? ---That is right.

That is the report to the English authorities?---Yes.

There would have been no reason for you to refer in that report to any Australians who might have been involved in the operation would there?---Well, I do not know. When you say no reason, there could be an adequate reason. If there was a third person, well why not add a third person. I do not have to stick to UK people.

You are reporting expressly on a specific event to the English authorities, are not you? In that report you named two Englishmen but you know Mr Rickard suggests he was also involved?---Well, I know now, not then, I do not think.

And your memory would not be good enough for you to deny that Mr Rickard might have been involved would it?---No, I am not prepared to deny anything now.

Would not deny anything now?---No.

So is the position that you would now take that Mr Rickard, on that matter, could well be telling the truth?---He could be.

And that would be true, I imagine, would it, of a number of the other things Mr Rickard said or not?---Well, within my own limitations, I do not think there are that many - I mean, there are things he said which is quite out of my field anyway, so I could not say yea or nay. I am not qualified to answer that.

Let me tax your memory a little further. You have indicated in relation to the Marcoo incident the extent to which you have recollection of what occurred in the course of the last two days. You indicated, I think, this morning to Mr Eames that for a large part of the exercise, particularly when they were showering, you were not present?---That is right. Not present inside the caravan.

The position would be therefore that, having regard to the position with respect to your memory, would it, that if a witness had come to the commission and indicated that there was physical difficulty in showering the aboriginal family that you also would not be in a position to deny that?---Well, there would be noises, I presume. There would be some indication. I would also be told.

What I am suggesting to you or that you consider whether or not your memory is good enough for you to be able to deny an account of those events which says that there was physical difficulty in showering these people? ---I would imagine that if there was any difficulty in the sense of a real difficulty that would be something I would remember. One thing I do remember is the soap getting into the boy's eyes and he being disconcerted. Now, I remember that one and that is not written in anything.

Well, is it the position that you say your memory allows you to remember exceptional events, is that right?---I do not know that you can say that in general, but perhaps you could.

When did you retire, sir?---Two and a half years ago. 1982.

1982? And did you immediately go to live in Murwillumbah?  
---In that area, yes.

I take it that you cast the cares of the public service  
aside?---Definitely.

And settled into a far more gentle life?---Yes.

I suppose you decided there and then that if you could  
possibly avoid it you would never go near a  
large city, is that right?---No, that does not -  
that is no particular problem.

Well, did you, after you retired, have occasion to come to  
Sydney or Melbourne very frequently or not?---The  
only time I came down was when requested.

How many requests were made for you to come to Sydney in 1983?  
---I think three.

Three?---I think.

And they were a request by the public service, were they?  
---Yes.

And no doubt each of them stands out as a particular event,  
given your personal circumstances?---Yes.

And in particular of course you have carried now for some  
time, have not you, knowledge of the fact that  
Mr Rickard has been very critical of various things  
that occurred at Maralinga?---I can now - I could not  
remember before, but last night, on thinking about it -  
I think it was last night - I could remember that we  
had a long letter from Doug Rickard at that meeting,  
and - but I could not remember the details of it,  
but I am picking up a bit during today. But it is -  
the details are not in my mind.

But the fact of the matter is you have always recalled the  
fact that you were brought to Sydney to attend the  
meeting to discuss Mr Rickard, have not you?---I  
have recalled that, yes.

But you have never forgotten that, have you?---I had at the  
time when - look, if I can make a word of explanation  
there. It seems to me that when I am being what I  
call pressured - that is just me - I - my memory  
goes blanker and blanker; and the more that I am  
pressured, the less I can remember. I do not know  
why it is, but that is the way it seems to be  
happening; and if I go away and relax, I can  
gradually bring back a better memory pattern. But

sitting here under those conditions, I just - just seem to stop thinking. I do not know why. It is - maybe it is old age. But that is how it is; and I cannot help it. In fact it becomes frustrating. I am trying harder and harder to try and remember; and the harder I try, the worse it is.

You have not had any trouble though, have you, it is now Thursday, remembering the events since last Sunday, have you?

MR McINTYRE: Well, your Honour, I object to this question. Where is it taking the commission, with respect, your Honour? The witness is - - -

THE PRESIDENT: Well, I think that Mr McClellan is mounting a general attack on this witness' credit; and I must say, speaking for myself, the circumstances warrant it.

MR McINTYRE: I just make the submission that the witness has given a clear answer to the questions and problems of memory; and he is not on trial, your Honour; and in my submission the matter need not be taken any further. If my friend does not accept that invitation, that is a matter for him.

THE PRESIDENT: Well no, I do not propose to cut Mr McClellan short - - -

MR McCLELLAN: Just in relation to your memory, Mr Turner, you have not had any trouble recalling, have you, the events from last Sunday?---I would not have thought so.

You speak of adopting for yourself and others a standard of 5 rads per year as the accepted dose. Where did that figure come from?---It is a figure that has always been there. I presume it is ICRP. ICRP, I presume that, but I - - -

Can you be any more definite or can you direct me in any other way?---Well, it is - you know - 28 years since that - that bench-mark was passed; and it is - just has not changed.

In relation to Maroo, we have discussed the recorded readings on the aboriginal people, can you tell me what was the physical process that they had to go through in order to be monitored and those readings made?---Well, I was not there, but the normal thing is you have a Geiger counter that runs down the front of the body and up the - - -



Is the Geiger counter a portable instrument or - - -?---Yes, strictly it is.

Would a portable instrument have been available on this day for the purpose of making those measurements?  
---Well, being the health control caravan, naturally.

There would have been a portable instrument, would there?  
---Yes.

Would that instrument be taken for this purpose into the contaminated area as contrasted with the clean area?  
It might, I do not know. There would not be any need to because usually the people that go out in those areas have survey instruments with them, and take those.

Well, what I am interested in is this: if it was necessary to monitor the aboriginal family, I assume that an instrument would not have been taken from the clean side of the caravan to the dirty side to do it, would that be right?---That would be - that would be the way it should be done, yes.

One should not contaminate the clean instrument - - -?---No.

- - - by taking it on to the dirty side. Well then, if that is the case, is it possible that in fact this family were monitored once they had got to the clean side, rather than on the dirty side?---Probably. I should imagine there were monitored in front of the caravan, I would imagine.

Well, it is possible, is it not, therefore that the readings that are recorded had been taken once the family moved to the clean side of the caravan?---Yes.

In which event, by that stage, they should have been cleaned, should they not?---You are referring to the normal procedures in dealing with people crossing from dirty areas to clean areas? Well, in a pedantic way, yes, I suppose you would say so.

See, it has been suggested to the commission that in fact what happened to this family was that they were not monitored until after they had been treated, cleaned and showered?---Well, when I arrived I had been - - -

Sorry, just let me finish. Are you in a position to say that that is not so?---On what I was told, because when I arrived there they said they had been monitored and that they had found a slight amount of activity, and it is after that they were showered, so it must have been.

Do you know in fact at what stage in the process the recorded readings were taken?---No, I do not know.

Tell me this, did this family have any food with them?---I do not know.

Do you recall whether or not - - -?---I did not see any, but I am working - when I say I did not see any - I can really only work on those photographs. That is all that I can work on.

Yes, yes, thank you. I have no further questions.

THE PRESIDENT: Mr Turner, I would just like to ask you one or two questions about your meeting with AIRAC of 18 March 1983, the meeting that had escaped your memory until you were reminded of it yesterday. You recall that at that meeting - tell me if you do or you do not - were a Professor Parsons, a Dr Lochan, a Mr Davey and a Mr Watson?---Yes, I - - -

Did you know all of those, or any of them, personally, before you attended that meeting?---Yes. Well, Logan not very much.

But you had met them all before?---I had met Logan, yes.

And the purpose of the meeting, as you understood it, and as emerges from the documents, was to check on and, if possible, to refute various allegations that were made by Mr Rickard?---I do not know if that was the intention, to refute. I do not know - I do not remember anything along those lines.

But in effect a series of questions relating to what Mr Rickard had asserted were put to you and you commented on them, in many cases adversely, to Mr Rickard's recollection, or version of what had happened?---I am sorry, I would have to - - -

You do not recollect that?---I do not know. I would have to look at what was said. I just do not remember.

You do not recollect what happened at that meeting a little over 18 months ago?---I remember that there was a discussion - there was a long letter. I remember being a long letter from Doug about a whole series of things. I tried last night very hard to try to remember what that was about, and I just could not.

Have you never read any document that emerged from AIRAC following that conversation, which indicated that, in reliance largely on your version, Mr Rickard was disbelieved by AIRAC?---I have not read that, no.

Well, how did you come to deal with the questions that were put to you? Were answers suggested to you by members of AIRAC or did you volunteer the results of your recollection?---Look, I just really do not know.

All right. Anything more arising out of that Mr - - -?

MR McCLELLAN: There is one final matter that I should put to the witness.

I appreciate, Mr Turner, that you wish to take the opportunity of looking at your statement further, but can I just take you to page 17 of it. In the fifth line, you say that you have been shown a copy of a report which you wrote on 30 November 1956, relating to the apparent discovery of injury to rabbits in the fall-out area. Now, is that true?---That is true, yes.

That is true, is it?---Yes.

That, of course, is the report in this bundle?---Yes, well, that one I overlooked - - -

It was brought in this bundle?---Yes, it was - - -

Actually stapled to the report dealing with kangaroos, you might like to check it for me?---Yes, I can see that. Well, I did not read that one - I read that one.

To get to the rabbit report, you have got to actually - - -? ---We did not get to it by going through the whole lot. We got to it - I think that was shown to me.

To get to the rabbit report, you actually had to hold back the kangaroo pages, do not you?---Look, I did not even - I have not seen that. It is the - - -

I just asked you sir, whether or not - - -?---I know, I am just saying - well, you are saying because I saw that, I would see one page that way, well, I did not see one page this way. That is new to me too.

Well, I just asked you sir, whether or not the statement which you have made in the statement on page 17, is true and I thought you told me it was?---Well, I saw something about the rabbits - what is this one here?

Well, just a minute?---Yes.

The statement, I put it to you again, is, you have been shown a copy of a report which you wrote on 30 November 1956? ---Yes.

Relating to the apparent discovery of injury to rabbits in the fall-out area?---Yes.

Now, that report is this document here, is not it?---Is that the one, what is this one here then? I seem to have  
- - -

Well, before we do that, can I ask you again, is the statement which I have just read to you for a second time, in your statement on page 17, true or not?---But I - well, I am trying to check on the truth of it, I am trying to see whether it it - how do I know?

No. All right?---No, I did not see that, let us - no. No, I have not. That is the one I saw, that one.

What you are pointing to now, is a report on natives at Pom Pom?  
---Yes, that is the one I saw.

Nothing to do with rabbits, at all, is it?---No.

Well, then there is the statement, I will put it to you a third time:

I have been shown a copy of  
a report which . . . . .  
. . . . in the fall-out  
area.

Is that statement true or not?---It is not true.

Not true?---If I was shown it, I did not read it. It is possible I was shown it.

THE PRESIDENT: Well, you are excused Mr Turner, but it may be necessary in due course, to recall you.

MR JAMES: Your Honour, may I put one thing to the witness arising out of what your Honour put, simply to make one aspect clear?

THE PRESIDENT: All right.

MR JAMES: Mr Turner, was it put to you that your meeting in March 1983 with the representatives of the Australian Ionising and Radiation Advisory Council, was for the purpose of advising a minister of the Crown on the truth of certain matters as a formal thing?---I do not know - - -

You would remember if that was put to you, would not you?---I would have thought I would remember, but I do not, maybe I was, maybe I - I do not know, I really do not know.

Nothing further, your Honour.

THE PRESIDENT: Well, you are excused now, Mr Turner. You may leave.

THE WITNESS WITHDREW

MR McCLELLAN: At this stage, I think I should take the step of tendering with the qualifications of Mr Turner - the qualification, if Mr Turner wishes to read it, the statement at this stage as it is, noting that it has been - I think Mr Turner, if I can have from you that copy which has been signed by Mr Turner, and we will provide another copy for you, sir?

MR McINTYRE: Your Honour, I wonder if Mr Turner could also be provided with copies of the documents that are referred to in his statement, so that he will have the opportunity to peruse them in his leisure.

THE PRESIDENT: Yes, I think that is reasonable - - -

MR McCLELLAN: I will see that will be done also, that may not be able to be done straight away.

MR McINTYRE: Oh, we can post it.

THE PRESIDENT: Well, I do not propose to recall him straight away. There will be time for this, I think this should be dealt very - with great correctness, and I think, Mr McIntyre, if after you have had the documents, that you want to supplement the statement, if you find that there are others that you want and which we have, they can be asked for also.

MR McINTYRE: . . . . . Mr Turner - - -

THE PRESIDENT: He should be given the fullest opportunity to reconsider his statement, to say what is true and what is not true.

MR McCLELLAN: If your Honour pleases. Can I also tender - - -

THE PRESIDENT: You may go now, Mr Turner, you are free now.

MR McCLELLAN: If we can mark that as RC140, I think, your Honour and can I tender with it only page 19 of the draft which I expressly referred Mr Turner to, that can become part of RC140 as well. Can I also tender the files to which reference has been made, and they are files contained in this box of documents, they are the reports of Mr Turner with exceptions which have been noted inside the box. That can become RC141.

MR McINTYRE: Your Honour, I should produce with it - there is an index which, I think, goes with those files.

MR McCLELLAN: Thank you, Mr McIntyre.

MR McINTYRE: Cross index - - -

MR McCLELLAN: We will put these back in the box and they can become RC141 with index and can I also tender three further files, which can be marked RC142. They are three files, being files from the Commonwealth X-ray and Radium Laboratory as follows; CXRL number 950/2, CXRL number 950/3, and the file known as R/1/1 and it is from these three files that the documents in the bundle shown to Mr Turner, from which they were extracted. They can be marked 142. I should also tender, so that it does not get lost, the bundle of papers which I indicated Mr Turner was shown in the course of the preparation of his statement. They can be marked as exhibit RC143 and can I indicate that the coloured marking on those documents has been made by at least two people. Firstly, Mr Lewis of the commission's staff, secondly by me. I do not know whether possibly by anyone else. The yellow tags have been placed on there by Mr Lewis.

THE PRESIDENT: Mr McClellan, I am afraid my attention strayed for a moment, but are you tendering the draft which was shown to - - -

MR McCLELLAN: I have tendered part of that draft, your Honour.

THE PRESIDENT: The part that was shown to Mr Turner.

MR McCLELLAN: Yes, I have done that and I have put that together. I have put that draft together with the signed statement as exhibit 140. Now, your Honour, if I may, I will call Mr Rickard.

DOUGLAS WILLIAM RICKARD, affirmed:

MR McCLELLAN: Your full name, sir, is Douglas William Rickard, is that correct?---Correct.

Your address - postal address is PO Box 119, Innisfail in Queensland, your residential address is Mena Creek, is that so?---That is correct.

Now, you sir, have made a statement to an officer of the commission, I think it was, in relation to the matters of concern to you which are relevant to the reference - tentative reference of this commission, is that so?---Yes, it is.

Do you have a copy of the statement there with you?---I do somewhere.

Well perhaps you might find it for me. I would ask you is the information contained in that statement true and correct?---To the best of my knowledge and recollection after 25 years. I have noticed one or two minor errors in spelling or something like that, within those restrictions, the answer is yes.

I tender the statement and can it be marked RC144?---I would note that the original statement which I signed was sent to me in North Queensland and which I signed did not contain the annexures on the back of it, however, having read those annexures they are, in fact, photocopies of a document I prepared - - -

Some time ago?---They are correct.

Mr Rickard, you indicate in the statement that you went to Maralinga in 1957 when you were 18 years of age. In 1957 you apparently answered an advertisement for a technical position with the Department of Supply. In response to your acceptance for that position, you were trained in Melbourne for, you think, approximately 2 weeks in health physics procedures. Can you tell me this, who, in fact, trained you? ---Joe Richardson, I think, was one of the major lecturers. There were a couple of other people - 25 years ago, I would not remember names.

Apparently you were then stationed at Mount Clarence via Woomera during the actual period of all the Antler tests at Maralinga. Now there is a map of South Australia behind you marked M4, can you indicate Mount Clarence for me?---On the righthand side.

THE PRESIDENT: We have found it.

MR McCLELLAN: You have found it?

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So the test sites were about 180 miles from Mount Clarence, your job was - or entailed trying to position yourself across the fall-out path based on weather predictions and when the fall-out passed over measuring the marking on maps which you had found. Many times the changes in wind meant that you had completely missed the fall-out. Now, other times you say it resulted in your being directly under the heaviest - or where the heaviest fall-out fell. Now, when you were under fall-out was it a phenomenon that you could actually see or was it only something that you could determine by measurement?---Purely by measurement.

Purely by measurement, right?---At the appropriate point in time, remember, we were in radio contact most of the time. At the appropriate time the general readings that you were taking would start to go up, as one expected.

Other times you say it resulted - I am sorry - in one case you say, you ended up with so much fall-out in your hair that it was impossible to wash it. Do you have any idea how much fall-out was registered as being in your hair?---No, I do not. It would certainly not have been a dangerous amount, but at that time I was still a Brylcreem kid.

You were not a Californian Poppy top?---No, Brylcreem.

Brylcreem?---It was stuck in the Brylcreem and wash it as we could, we could not get rid of it all.

Did you try and wash it?---Oh yes, several times.

And how did you go about that process, soap and water?---Yes. Soap and bore water that is all we had.

Soap and bore water and who made the decision to cut your hair off, you or someone else?---Oh, generally it was agreed that we did not - none of us had enough knowledge to really make the decision - to decide whether it was safe or unsafe and we had a gentleman there, Jim Davidson by name, who was one of the ARDU who had been a shearers barber for many years and so the decision was made easier to chop it off and eliminate the problem than to take any form of risk. I certainly believe the amount of radiation in the hair was not dangerous even though it was quite a number of times higher than background.

So you went from a bodgie to a skinhead in one afternoon?  
---I have a photograph somewhere that I tried to locate and bring with me which shows me with hair



coming straight out about 2 inches taken, a couple of months afterwards and, I do not show it to many people for obvious reasons.

THE PRESIDENT: Well, it would be fashionable today.

MR McCLELLAN: Well, tell me, at the time this event occurred, who was present with you and, in particular, was Mr Turner there?---No, no, Harry - in fact, I do know if Harry Turner ever came to Mount Clarence. He may have, if he did I did not know him at the time. My first meeting with Harry Turner was at Maralinga proper.

At Maralinga proper. Well, what about Mr - pardon me a moment?  
---Page?

Mr Page, yes?---He was a member of one of the other teams.

Was he present at the time this event occurred and your hair was removed?---Oh, it is difficult to remember. Remember, there were about 18 or so of us in the group. I think 20 - 20 of us in the group. Just who was present at that time, the only person I can vouch for is Jim Davidson because he did the damage.

Tell me this, was the event a big deal in any way?---No. There was only about four or five people there at the most and after washing a couple of times and realizing it was not going to come out, after a bit of a discussion accepting the fact that none of us really had the knowledge or the expertise to know whether it was dangerous, the simple decision was to cut.

Right. Now, was anyone else similarly affected or was it you that copped it?---I think myself only because the other two rather elderly gentlemen I had in my team with me, I think, were long past the age of wearing Brylcreem. In fact, I do not know if they had anything to put Brylcreem on.

You say in your statement that one of the things that disturbed you, was the fact that quite often you would find small patches of much higher radiation than background in the areas where none of the fall-out from the tests you were working on had gone. Now, can you help me to understand that statement. You say that when you were out in the process of trying to identify where the cloud was falling and you came across concentrated patches under the path of the cloud, is that - - -?---Do you want it put in your words or do you want me to put it in my words?

No. I want it in yours, that we can all understand?

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---Right. We would be sent to a particular location and at this stage the fall-out had not yet arrived - it was not yet expected - so I would do some general background measurements and I would cover quite a large area, perhaps a 20 foot diameter circle, just getting some idea of average background radiation. Quite often I noticed that as I went over a particular clump of vegetation that the background radiation would jump to perhaps 10 times normal. Quite - a very obvious amount above the general background radiation. Now, this clumping I noticed was always associated with vegetation. Now there was nothing on the report sheets we had available at that time to - that our records were supposed to be written in on and sent away, to make allowances for this, so I used to either write this either on the top or down the bottom. I would actually take the measurements and say, you know, anomalous readings up to such and such recorded and I would write these on the sheets because I thought perhaps someone might be interested in it.

And was anyone ever interested?---I have no idea. No one ever came back to me about any of them.

You say it was not until much later that you were able to find out that, in fact, it was the path where the fall-out from the 1956 series of tests had gone. Now how were you able to ascertain that?---When I was finally transferred to Maralinga I was actually shown maps that showed the paths with fall-out from the earlier series of tests had gone and this corresponded, in one particular case, with where I had been and seen and experienced these higher than average counts. Therefore the assumption was made - only an assumption - but the assumption was made that that is what it must have been due to.

Do you say this was normally on vegetation?---Yes.

Any particular type of vegetation?---Grass - I am not a botanist.  
No, they were just tufts of grass.

Any vegetation with nuts or berries or the like?---No, no. We were in the middle of a drought at the time.

Were you? You say another part of your job at Mount Clarence was the collection of sheep thyroid glands for the measure of iodine 131. You would collect the thyroids from the sheep at the time after the fall-out was supposed to have fallen. Now, you would do this presumably, what, by killing the sheep and extracting the thyroid?---I must make a point there. It was the job of the ARDU, not myself. I was not one of the people who was kept back at Melbourne after the main training course, and trained in thyroid removal. I was not one of those people.

Did you do it?---No. I was - at the times I was involved in it, I was in the company of a person who had been - stayed back and trained in Melbourne in the removal of thyroid from sheep.

So you operated as an untrained assistant, did you?---Yes. The training for these people, I might point out, I think lasted two additional days. I think most of us were there for about two weeks, and they held three people over for two days of the next week where they took them somewhere and showed them how to cut a sheep's throat and pull out its thyroid gland - a 10 second operation.

So you would collect the thyroid from the sheep at the time after the fall-out was supposed to have fallen, and they were sent to Maralinga by plane, and were measured to see how much iodine 131 the sheep had eaten. You say that:

At the time there was a severe drought in the area . . . . . iodine 131 was found.

Were the sheep being hand-fed?---You just - no. Hand-feed tens of thousands of sheep? No, no, not - - -

They were just left to battle as best they could?---Yes, they had just been left to die. In fact, when they saw us coming with these chits worth five pounds, they loved us, and we did not even want a good beast. We did not even want one for meat or anything like that, just so long as it was not dead at the time - at the time, was our only requirement.

Well, are you saying that by reason of the lack of vegetation from where you stand, you have some doubts about the iodine 131 readings is that - - -?---Very much so, particularly after, as has been mentioned before in previous stuff, after leaving Maralinga, I went to Aldermaston. I saw similar programmes in evidence over there, round Aldermaston, where they - surrounding areas - used to occasionally go and get a sheep and measure its thyroid. Now, under those circumstances, where there was lush green grass and things like this, we were particularly interested with the output from some of the smoke stacks or whatever you want to call them at Aldermaston. I can understand where the idea came from because it was a very good method there, you would get this iodine falling down, the sheep would ingest it and you could get very good measurements there. The whole experiment was ridiculous given Australian conditions. It was my feeling that it had been translated from an English environment to an Australian environment without anyone ever looking at the different conditions.

About one week, you say, after the Antler trials were concluded, you were transferred to Maralinga to the health physics team under Mr Turner. Your work involved the control of personnel entering the test area, decontamination of personnel and clothing, radiation surveys of the actual bomb sites. You ran the laundry where radioactive clothing was washed for some time at Maralinga. The measurements you carried out at the bomb sites involved danger because there was still high radiation levels at the site; it was important to do these as quickly as possible to reduce the exposure time. However, you say you were working a lot of overtime at the time, and it was not uncommon to almost triple one's pay. Now, were you an exception or were you the norm, in terms of working of overtime?---Let us go back to when we were at Mount Clarence. Officially, we were employed public service hours. Generally, the radio call would come through from the met people round about midnight that the winds were favourable. Now, we needed a couple of hours start before the detonation to get in place. The detonations were usually timed for about dawn or shortly afterwards, so we would be raised out of our beds at midnight and be sent haring off across the countryside, and generally, nine times out of ten, the wind would change or conditions would become unfavourable for the test site, would be cancelled, so back we would come again, generally arriving back say about six o'clock in the morning. Because of this, because we did not have an 8 hour break between our official public service stop work time of 4.36 or 4.39 and three-quarters, whatever it is, because we did not have an 8 hour break, after several days, we went onto continuous overtime. This was starting to happen for

seven days a week, 24 hours a day. As about a 17 year old, you can imagine what I was making. I was making about 12 times my normal salary. At one stage, the Department of Supply got a little upset about this and said, oh, look, you should not count your hours 9 to 5 or whatever they were. We threatened to go on strike. We said, okay, we will work 9 to 5, which would have meant that there would have been no ARDU, so - - -

You say that the overtime was only available when working in the forward zone?---I cannot remember. I am talking here of Mount Clarence. Now, when we moved to Maralinga, right, we were still on this bit.

Sorry, I - - -?---On this long overtime bit, and the public service was very - wanted to chop us back as soon as possible, and within a few weeks of us arriving at Maralinga, they did so, okay, so the period of very high overtime and things at Maralinga proper lasted only a very short time. They wanted to chop that as soon as they could. They reckoned we had had a good enough go at Mount Clarence which I do not deny.

While you were at Maralinga then, I take it, the comment that you made on page 3, that overtime was only available when working in the forward area, that was for a short period of time?---Yes. Now, the reason for it, and it goes into something later on, is that at that time, in the early days, we had a lot of craters to sample, and quite often in brief - very short period after, we would be sampling daily. A short period, at a later period, every second day. A little bit later on, we would be sampling every third day. This meant that quite often, we had to sample on weekends and things like this. Quite often, we would try and organise it so that we had to sample on weekends, so that there was a bit more in it for us.

You say that as a consequence, once your film badges and other personal monitoring devices showed you had reached a certain level, you were restricted to the rearward zone with a consequent loss of overtime. Now, did it in fact happen that your devices reached that level, or are you saying to us that before they had reached that level, you were concerned about the prospect that they might, as a consequence engaged in this common practice that you refer to?---In the thought that they would reach those levels, film badges and things were removed and left out of the way.

You say it was common practice - can I ask you, did the boss know you were doing it?---I doubt it very much.

Who would have been your boss at this time?---Harry Turner.

Harry Turner. What would he have done if he had known, having regard to your not - - -?---Cut my throat.

Cut your throat. Now, how many people would have engaged in this practice?---Only a very small number. At that time, we still had the remnants of the army group who had been the health physics team at Maralinga during the actual Antler trials. There was still a few of them left, and we were working with those. In fact, I have to admit, I learnt a lot of my bad practices from them, all the sneaky ways to do things.

I see. Do you regret some of them, those sneaky ways now? ---Very much so. All I can point out was at that time, you know, I was the lowest of the low. I had to salute the cleaners.

You say it was common practice to leave the badge and dosimeter in the Land Rover so they did not register. Would it be true to say that they would not register if they were left in the Land Rover?---In the conditions - - -

The Land Rover was in the forward area, was it not?---Yes, but remember, quite often when we were doing the crater surveys - crater surveys, they just mean, you know, the whole zone - quite often we would leave the vehicle parked, and we would walk. Different measuring techniques were used, depending upon the dose levels and things like this, and depending upon - sometimes you used to sample every hundred feet. Now, at a time when - immediately afterwards, quite a lot of the pegs were missing, and so I seem to remember it was exactly 37 steps per hundred feet, but oh, we had that worked out so well because we had tramped so many miles. You would walk your 37 paces and take your reading, and you had a two-way radio on your back, and you just call out the results in that, and on to the next peg, so quite often the Land Rover would be half a mile away, completely out of the active area.

MR McCLELLAN: Can you tell me for how many weeks would this have gone on?---Not a long time. I would say up to a couple of months at the outside.

A couple of months at the outside?---Yes.

Were you going into the forward area on a daily or an every second day arrangement?---Sometimes more than a daily basis at that stage. Sometimes we actually slept in the caravans; because, remember, we had full food facilities and, of course, the kitchens were still going at that time.

Did you leave your badge or dosimeter behind every time you went in, or - - -?---No, no.

How often would you have left it behind?---No more than half a dozen, but you were very selective about when you left it. If you knew where you were going to work and what the radiation levels might be, remember it was all a great - biggest fun thing: great experience this whole thing, a whole lot of fun.

You say you recall on one occasion your film badge was so black the densitometer being used could not even read how much radiation you had received?---It was outside - I mentioned in one of the other documents there about the small piece of graph paper that was attached to the densitometer. It was sufficiently black but was outside the range covered by the graph because the graph had originally been calibrated, I assumed, for the expected low level. Film badges come in various ranges of sensitivities and we were generally using low sense - very sensitive film and it was calibrated for those areas, so, get any more than that range of calibration was outside of the graph reading.

Well, there would be other explanations, would there not, apart from necessarily irradiation exposure to your film badge being black, as you describe?---There could be many.

Were you able to analyse for yourself whether or not there could have been some other explanation apart from the exposure to ionising radiation in the front that led to your badge blackening?---No, because in fact on another occasion when I remember when Peter Woods was doing the processing, I was in the front office and Harry came racing in to me and said, "Where have you been, what have you been doing out there?" and we went through all the things, and I said, "Why" and he said, "Well, your film badge that Peter has just

processed is crazy."

What did you say?---I could not recall anything abnormal, where I had been. The indications were that there might have been a difference in radiations, remember the film badges had a totally unshielded strip across them. A section that was shielded with thin sheet metal and another piece, I think, that had a cadmium strip over it. Now, this gave some indication of the energy ranges so that one could get some general idea of perhaps what energy the - it may have been that some of the stuff was a different energy level. I do not know. All I know is that at that time Peter Woods picked it up and showed that my badge was anomalous, Harry took it up with me. We could not pin anything down then; but remember, at that stage, we still did not know of the existence of all the cobalt 60 at Tadge and it is quite feasible that I may have been standing on some of that stuff and not having an instrument with me would never have known about it. In fact that is one of the things that worries me. Until we found it, lots of people could have been. We never surveyed the area where the cobalt was found.

Can you indicate, you say in your statement that you recall on one occasion your film badge was so black and so on; was that the occasion on which you were spoken to and asked what you had been doing, or was - - -?  
---No.

Now, when the badge was found to be so black, what was done about it?---We guesstimated a reading.

Do you recall what was guesstimated?---No, I cannot.

When you say, we did it, who was, we?---I think I might have sat down with Peter Woods at the time and we worked out where I had been, if there should have been any reason for any exceedingly high level had I been handling anything different or anything like that. All we could do, then, was, in the absence of anything like that, we would look at the bit of the graph - remember the graph; unfortunately, was not even linear so it was a curving graph and we would try and extrapolate this curve off the edge of the paper and - that will do, right, we will enter that value.

Did that guesstimating process happen to you on more than one occasion?---Yes.

Do you recall how many it might have been?---A number of times there were film badges which, due to one reason or another, could not be read. One of the common things was bubbles on them during the development due to



excessively high temperature of the wash water, as it turned out later on. You just could not measure the badges, you could see that there was some darkening of them but you could not get sufficient area of them to put under the sensor of the densitometer. So, you might look at a couple of other badges and say, well, it looks a bit like that one there, okay, we will put down so much for him.

You say you received your major radiation exposure however during the surveys of a bomb site about six months after the actual explosion. Now, which site was that?---It was the Tadge site.

To allow repeatability - - -?---I might point out that the six months is a guesstimate that Peter Ryan and I made because we could not recall the - we had no documentary evidence of the time at our disposal at the time I made the statement.

Yes:

To allow repeatability in  
the measurements . . . . .  
. . . . . noticed a few  
anomalous readings.

Now, would there have been a reason why you would not have noticed the anomalous readings previously?  
---Yes, I think Harry Turner covered this reasonably well in his statement that the high initial levels would have masked it and only after the general levels had died down a bit would these specific ones have then started to pop up.

This process that you were undertaking when you found these anomalous readings, were you wearing protective gloves?---Let us get this point of protective clothing right: protective clothing quite often meant that all we did was take off our own civilian gear which we owned and put on a pair of overalls. They have got as much protection as a piece of tissue paper. They were protection against dirt and getting your own clothes dirty.

I appreciate that, but if you could just tell me what were you wearing at the time?---I was most probably wearing a set of white overalls.

Were you wearing any headgear?---None at all.

Gloves?---I doubt it. I was wearing rubber boots, I remember that because we generally wore rubber boots simply because of the - or the glazing and things like this and

the glazing would not stick to rubber boots.

Would it stick to leather boots?---I doubt it. The glazing did not generally stick to stuff very well at all.

You:

Decided to do a bit more  
investigation . . . . .  
. . . . . for sample collection.

Now, how did you get them into the tin, you picked up in your hands, did you?---No, picking them up with the edge of the tin.

The edge of the tin, so you scooped the tin underneath, did you?---Yes, just a normal tobacco tin. Anyone got an Uncle Pat tin. They were just Uncle Pat tobacco tins, that was our standard - that is how well we were supplied with equipment, but Uncle Pat tobacco tins was our collection method.

They have been used for many scientific purposes?---Yes.

Then you put it in the back of the Land Rover:

and drove 30 miles back  
to the lab. . . . .  
. . . . . notified them of  
arrival.

Now, who was waiting outside, can you give me some names?---Harry was, there was another - - -

You mean Harry Turner?---Yes. Harry Turner was there. There was another bloke who was ex RAAF. I cannot remember his name, in fact the names of most of the other people of the health physics group I have forgotten entirely. Perhaps if someone could supply a list of them I might be able to identify the particular gentleman because he and I worked with the cobalt quite a lot later on doing various measurements on it. Who else was there, I cannot remember but I pulled up outside the building which was normally not done because I was in a yellow vehicle and I had actually driven onto a clean road. As I remember there was a separate yellow road that followed the main road out to the range head. I had come back along the yellow road and diverted off it just straight in front of the building; and as I pulled up there there was Harry and a couple of other people outside and, you know, "Well, we knew you were coming, we could see it".

So you quickly ascertained, you tell us, more powerful than anything you have previously detected and you were able to establish by using a Pearson scanning spectrometer that it was cobalt 60 with a half-life of 5.2 years. You indicate it was one of the last things you expected to find, you got in touch with Aldermaston, immediately there was a security blanket and you were interviewed by a security officer and impressed on you not to speak to anyone about this at all, particularly any Australians no matter what their position at Maralinga. Were you told why that was necessary? ---No, in fact, I was told I should not even communicate any further information I might have to Harry Turner.

Who was that?---He was an English security officer, not an Australian one, and he impressed upon me that if there was additional information that I had not already passed on to Harry Turner, that I was not to pass it on to Harry Turner, that I was only to communicate any information I had to English scientists. I have always wondered about that.

Major effort was immediately started, you say, to try and collect as much of this material as possible but there were problems because the level of radiation was so high it was obvious that the existing health physics crew personnel could not do it because by this time they were already over their limits. You found a number of Australian services personnel who were supposed to be there on training course and radiation protection. These people could not be told what they were working with because of the security blanket, however, you made up some long scoops by tying jam tins onto wooden handles and showed them how to use those to collect the particles. You say, that special aircraft were flown out from the UK with large lead containers, the particles were placed in these and flown back to the UK. Is that - - -?---The movement of them, I will have to admit, was a little obscure to me because no-one would actually say what was happening. I do remember, though the arrival of them, they would come in, I think by Valetta or something or other from the UK and then I remember that they were - these lead containers were very, very heavy, I think it needed a forklift or a crane or something or other to move them and they were shipped off to the airfield and I just had no further knowledge of them. You know, again the security blanket came down - bang, and - - -

THE PRESIDENT: Do you realise, Mr McClellan, that that allegation is disputed by AIRAC?

MR McCLELLAN: I appreciate that - - -

Tell me sir, when you were - well, sorry, before you discovered the particles, you told us of the routine that had been occurring at Tadge site, how many of your team would have been involved in the regular monitoring of the Tadge site?---Oh, quite a number.

Quite a number?---Yes.

Can you give me a number?---During - remember the numbers were diminishing all the time and I cannot remember how many of us were at the group, at that stage. It turned out after a while there was generally only the technical staff were perhaps myself and one other person, we had a clerk and with Harry and Peter Wood. So quite often that was us, you know, with 10 million things to do. That other person rotated round every six months, initially there were more of us and then gradually - you know, two would come up and rotate round and then perhaps only one person would come up and rotate round. So at the time that this occurred, I cannot remember how many people were there, in the actual group. Quite often remember we had quite different functions to perform each day and might not even see one another all day long.

What about other personnel would they, in that time, have had occasion to go to the Tadge site?---Not many.

Not many?---No.

Again, can you give me some sort of number?---Well, at that stage, most of the army people had gone, you know, it was really - the time I found it, it was really wound up and there would have been a very small number of people ever went out into the forward people. In fact, I would guess that we in the health physics group were the only people who went into that forward area.

In the course of your going into the forward area, before you found the cobalt, did you wear a film badge as a matter of routine?---The majority of times, yes.

Sorry?---The majority of times, yes.

Why the majority of times, why not every time?---Sometimes you knew you were getting close to the limits and you did not want to be - Harry would quite often move people where they were working to a different area, long before they had reached their danger limit.

Their limit?---Yes.

So, as a consequence, what happened?---Oh, sometimes you would not let him see that you were getting to that level.

And was this a practice indulged in by you and others, or just by you?---Oh, initially by myself and a small number of army people but after the army people left, in fact there was only just a couple of us, my guess is I would have been the greatest offender.

That is just that you are a bit stupid about these things? ---Absolutely, sir. As a 17 year old, I do not deny that. At the time it was the greatest game of my life, it was a fascinating experience, you cannot believe how fascinating it was at that time.

Had it not been impressed on you that what you were doing would be or could be dangerous for you?---No, because there still seemed to be a general feeling that there was kind of threshold level which one had to exceed and all this thing that - oh, you know, the levels are already so many times safe anyway, that there was quite often an unhealthy disregard for the levels.

And is that an attitude which in any way Mr Turner disclosed? ---No.

What was his attitude towards levels and dose receipts; strict? ---Yes.

Always?---Every occasion - any occasion they ever had to deal with . . . . . yes. He stopped me from going out in the forward area and gave me rearward area work to do when I had not even - had not reached the danger limits, but had got more than average amount of radiation.

You say after this occurred you do not seem to have suffered from radiation exposure. However, at the end of June 1959, you left Maralinga to take up a position at Aldermaston and some months later you took up another position in London. Now the position you took up at Aldermaston, did that involve your exposure to ionising radiation?---Very minute amounts, I was with the health physics group there. The work I was doing was development of tritium counting techniques and smoke-stack experiments which involved smoke pots and things and no ionising radiation at all.

What about when you took up this other position in London, would that involve you in exposure to ionising radiation?---No, apart from medical x-rays I, to the best of my knowledge, have never been exposed to any other ionising radiation.

So, this time you started to suffer symptoms, you went to various hospitals. You were identified as perhaps having malaria, but that was not confirmed. You returned to Australia in the early 1960s and worked

in Sydney, then Woomera, and then Brisbane. Then this time you started to suffer from extreme pain in your right foot, so severe it would keep you awake at nights and sometimes you could not sleep. You went to many different doctors about the problem, many x-rays were taken, nothing wrong, physically, could be found. It was suggested that you might suffer gout but that was ruled out. Finally when you were in Brisbane hospital for a completely - another reason, there was point in the hospital had a scan of blood tests for all patients, possibly you think as part of a VD detection campaign. Your tests showed up abnormal so many further tests were done. Again symptoms similar to malaria must have been found because of the nature of the tests and finally your doctor happened to ask you if you had been exposed to radiation and you said, yes, and he surmised that it could be the cause of your problems. Bone marrow samples were taken and these showed marrow damage and you returned to hospital, but I think that condition - - -?---I should point out, the commission should already have all of those documents from those hospitals. They have certainly been made available to the Department of Energy. They have all the documents, so all of that stuff should be well documented and existing.

I think what happened was that the confirmation was given to you that you had suffered marrow damage, but that had stabilized?---It appeared at the time that it had stabilized. Over the period that they did the marrow samples, there did not seem to be any deterioration over that - - -

What is the position now?---That I have no bone marrow left. It is just fibrous material and my blood is produced by my spleen; hence a crazy sort of blood. Again, you have - you should have all the medical records and doctors findings there.

Then you describe the problems you have with lack of breath and walking and so on, and there was a suggestion that you might have suffered emphysema as a result of the radiation. By 1981 you say that you have not been affected to the extent where you were incapacitated. However the side effects of it have caused you some problems, in particular after a holiday in Bali, you had a particular difficulty in relation to some treatment that was given to you at that time. You comment on the position of government on page 9 and, in particular, trying to get some of your records. You describe difficulties which you say you have had with the bureaucracy in relation to those matters. And you were given the chilling comment to say at one stage that if you died, they might look into your case?---The lack of interest I thought was appalling. In fact, I have another letter, even after being granted compensation, I asked of them copies of all the documents they had obtained from the different hospitals and things like this, and found out that, of all the different addresses and things I had given them of medical practitioners and things over the many years, that they had only ever gone to two places: the Royal Brisbane Hospital and the Royal North Shore Hospital. They were the only two places they had gone to. They had got enough evidence from those two to satisfy their medical thing, but they obviously were not interested in any of the other medical things; they were not interested in - once they had proved their case, they were not interested any more in my health.

You then refer us to the DC12 building, indicating, as we know, what was contained within it. You refer to the fact that it was used by the teams in the UK for the preparation of minor trials. You say:

During the period . . . . .  
plutonium.

You say:

There was a lot of radon gas . . . . .  
. . . . . had to be replaced.

You say:

It was necessary to use a crane;  
. . . . . that was your job.

Now, at the stage that that was your job - I know you have tried here - but can you do any better in telling me who you were working with?---Peter Woods.

Peter Woods?---Peter Woods and Corporal Walton, I think, drove the yellow crane.

What about a Mr Halliday, was he involved at all?---I - the name does not ring a bell. It may well have been he was involved, but I just remember Peter - Peter at one end of the filter and myself at the other end; and Wally driving the crane. They did some other work on DC12 in which I was not involved. I know that they pulled out large chunks of the roof at one stage; and I was not involved in that at all.

How did you come to be involved in this exercise at all? Was it part of your normal duties or was it a special item?---What was my normal duties? My normal duties was to get through whatever I was told, generally, each day; and if Peter Woods would just say, you know, come on, we have got to change a couple of filters; well, I would wander off with Peter and we would change the filters.

Would Harry Turner have known necessarily that you were doing this?---Not necessarily. Harry left an amazing amount of the day-to-day operational side just to us troops. That is one of the reasons why it such a fantastic experience there, because, as a 17-year-old or 18-year-old, I was given so much responsibility, the greatest amount of responsibility I had ever had in my life to that point in time.

You indicated you had:

- no proper breathing equipment  
. . . . . mouth of the filter.

Now, I am sure you did not mean to put all that into one sentence. But that describes the events which occurred, does it?---I seem to remember that that was actually dictated into a dictaphone, which is - - -



It probably was. Eventually, you say, you were able to get it out and a new filter was bolted in:

The second filter . . . . .  
going to the gas pipes.

?---I do not know what these cups are, that is -  
I do not know what these cups are. It is just large diameter plastic tubing.

So tubing cups, the cups should be deleted, should it?---Yes,  
I - - -

Large diameter plastic tubing, is that it? To continue:

Preliminary tests would seem . . . . .  
. . . . . safety hazard.

Now, are you saying, sir, that as a consequence of these events, you might have suffered any radiation injury?---I do not believe radiation injury from that, a toxic chemical damage quite possibly. I still have quite a lot of lung problems which I have been tested many times over the last four years, they have great difficulty in diagnosing it. Some of the best respiratory doctors in Australia have had a go at me. They cannot put their finger on what the problem is. They do not know. All tests so far have been inconclusive.

Just so we have it clearly what you are saying, what toxic chemical do you say might have had - - -?---I have no idea what was used inside DC12, sir. I still to this day do not know. I said in there perhaps it was plutonium. That is purely a guess. It was whatever is the material used in the minor trials. I even mentioned - - -

Was there only one occasion on which this event occurred?  
---Beg your pardon?

Was there only one occasion on which this event occurred?---Which event? We have mentioned two filter changes.

I am sorry, yes. The problem with the air supply with the breathing, did that happen on one occasion or more than one occasion?---Well, I only ever changed two filters, and on each case it happened. On the - - -

The same problem?---Yes, on the first occasion we had a problem, so next time I vowed it would not happen. It happened from a different reason the second time.

Did you report the problem to anyone?---Peter Woods was there with me. I did not need to report it, he was well aware of - - -

What about Harry Turner, did you tell Harry Turner there was a problem?---Oh, I do not know, may have.

May have?---Yes. May well not have, too. As I say, a lot of these types of incidents, unless there was something that at the time appeared to be extra significant about them, you generally did not go and bother Harry with them, he was just too busy.

So you also recall problems that you experienced with the disposal of radioactive waste in the RB/DC area:

Contaminated vehicles . . . .  
. . . . . possible for  
some of these radioactive  
wastes to have leached out  
into the soil.

Now, can you just describe for me the nature of the wastes that were buried in this way. Were they wastes with a short or long half-life?---The wastes from DC12, I would not have the faintest idea. Generally after the team had tied up before leaving they would give me a bundle of stuff and say, you know, here, get rid of this. Other stuff was glazing and things that we would have brought back to do analysis on and we would just end up with, you know, a bit of stuff accumulating that you had to finally get rid of.

There was, was there not, a fairly strict regime of disposal of waste material; and indeed, it was categorised was not it?---As well as we knew. Certainly at times I had to write down what was in them and something that came from DC12 I would not have known what to write down, so generally it would be something like DC12 wastes. I would not have had the faintest idea of what went into - - -

There were three categories, were not there, one, two and three? ---Other people may have categorised into those ratings, I certainly did not. I would describe them in terms of what the materials were that I knew constituted the garbage, if other people classified them - - -

Was not the waste buried in a different manner depending upon which category it fell into?---These were the only wastes I was ever involved with disposing those that I put in 44 gallon drums.

Did you ever see waste actually buried in a concrete coffin?  
---No. The only waste disposal I was ever involved in was those drums I actually filled myself. I was not involved in any other waste disposal.

It would be possible, would it not, that others had made decisions about the appropriateness of disposing of this waste in this manner?---I do not know if anyone else knew how I was doing it, because I came up with this method of the 44 gallon drum myself.

Surely Mr Turner, or someone, would have known what you were doing, would not they?---Generally, the arrangement - he would say, "Look, you know, dump this some way, how do you think?" and I would say, "Oh well, I will fill up a 44 gallon drum with concrete?" He would say, "Yes, that sounds okay." That was the amount of engineering that went into it. Today, I can understand a tremendous amount of engineering goes into the design of waste containers. The engineering at that time was whatever I could lay my hands on: Milo tins were available, so that was the engineering.

Before I tender the annexures in your statement, you, I think, were interviewed by some members of AIRAC, is that right?---The word, interview, I would believe is misused.

Why do you say that, sir?---The meeting I had with AIRAC was the most farcical meeting I have ever had in my life.

Why was that?---They seemed totally uninterested in what I had to say. Many of them made absolute asses of themselves by the stupid questions they asked. In fact, even the chairman had to eventually shut up the member who was on his immediate left because he could not get it through his thick skull that it was not a public service thing out there with millions of clerks available to do your bidding and things like this. The whole thing was such a farce from beginning to end. I thought they were interested in listening to what I had to say, but at exactly 59 minutes and 59 seconds, they said, "Good-bye, thank you very much", and at that stage we had not got on to anything that I wanted to talk about. It was only because of my objections at the time - - -

Just a minute. Let us get it out in an orderly form. The meeting lasted for how long, an hour?---An hour exactly when I was kicked out.

Do you recall who was present?---The only person I knew personally was Professor Parsons. The rest of them, to a man, were people who I had never ever met before.

I think that you had, by this stage, written some letters to people, including the minister, is that so?---Yes, that is correct.

Were those letters before the committee at the time?---They did have quite a number of them, yes.

Was any attempt made to record what you said at the meeting?  
---Yes, the whole thing was recorded.

What, taped, was it?---Yes, the whole meeting was taped.

What was the process. were you asked questions or were you just told to say what you wanted to say?---No, I was not allowed to say what I wanted to say. In fact it became almost an interrogation, a third degree, over some of the things - things like the dosimeters, and somebody who obviously did not have the faintest idea about the actual dosimeters, trying to - I wish I knew what he was trying to get at - but his questions were ridiculous - - -

Who was that?---I have no idea of the gentleman's name. They were all strangers to me.

Do you recall the nature of the question?---Yes. He could not understand how a battery might be used with quartz fibre dosimeters. Now, if he did not know about the use of battery operated charging units for dosimeters, well I wonder how much he did know about radiation and what the hell he is doing on AIRAC.

Tell, me, were you introduced to these people personally?---Oh yes, just as you sit down and someone says, Blow, Blow, Blow and Bloggs, Bloggs, Bloggs, yes.

Who did the questioning?---Everyone.

Was it organized in any way, or was - - -?---No, it was the most disorganized thing I have ever been to.

Tell me, were you thereafter shown the transcript of the meeting?  
---No, never seen anything more of it.

Were you ever told, in any way, of the outcome of the investigation that AIRAC was involved in?---No. After they, kind of, you know, just dismissed me - your hour is up kind of thing - I objected a little bit, saying I had come prepared to talk about a lot things. I actually spent quite a number of weeks preparing a lot of information. I had all this documented, things I wanted to talk about and I wanted to bring all this up. I was not given, at any time, any opportunity to present any of this

stuff, and then I was summarily dismissed and I started to object and finally as, it seemed to me almost a sop, they said, oh well, if you are still going to bitch, well, send us some stuff in writing. That was really the attitude I got. I was so incensed at that whole meeting that, in fact, when I went back home again I think I actually threw out all the stuff I had prepared; I was so incensed at that meeting. I spent weeks putting that material together, and they were not in the slightest bit interested.

Well, you have attached to your statement a number of pages, four pages I think, or they have been attached for you. The first one deals with film badges. Can you just give that to me. This is material which you have prepared, is it?---Yes, it is.

When did you prepare it?---These ones, I think, by the looks of those, may have been prepared for Professor Kerr.

Professor Kerr. In the course of Professor Kerr preparing that report?---Yes. I spoke to him on the phone and he asked me just to put a few things down and send it to him.

Looking at film badges, you say when you joined the group at Maralinga after Antler you were bequeathed the job of maintaining film badge records of radiation. Now, this is after Antler. You say you were bequeathed the job. What do you mean by that? Was it given to you expressly?---During the Antler period I understand it was actually done in another building called XA9 or something or other which was a long way from the RB area and I understand that it was a very well equipped, you know, photographic laboratory and things. Peter Adams was given the actual responsibility post Antler for the film badges and I became involved in this during - helping him with them and finally he ended up, you know, doing all the development, the readings used in the densitometer and the recording of the metered values into a large notebook which was the issue log.

You say that film badges issued were some ancient old stock, much of it already past its expiry date. I take it that the expiry date would be a reference to the film insert, would that be right?---Yes, the - we had a box about yea big, it was Ilford if I remember - - -

You are describing a box which is about - - - ?---And on the outside of that - - -

Sorry. You are describing a box which is how big by how big? ---About 10 centimetres by about 2½ centimeters by, perhaps about 20 centimeters.

What was inside that box?---Just had a stack of these film badges in it.

Right. What were you going to tell me about it?---On the outside of the carton it generally had an expiry date. I cannot recall if the expiry date was marked on the individual film badges. I doubt if it was. But certainly on the carton was marked the expiry date of that batch.

Is that the way you determined that it was, as you say, ancient old stock?---Oh yes, it looked like it had been there since Buffalo or something or other. In a dark room

we had one of those chest type freezers with a lift up lid and it was just filled with 400 foot rolls, 35 millimetre film, boxes of film badges, unopened. Stacks and stacks of all sort of stuff. We used to have fun; take all our own photographs. Used to load up our own film cassettes and go out and take them. We did a lot of our private photographic work in that lab.

You say these were issued at front line caravans to personnel going into the vast areas. Many of them when collected for processing, many of them were lost or souvenired. You mean the badges were lost or the film was lost? ---The whole badge was lost, you would get nothing back.

Badges were taken back to the RB labs where you developed them using some old x-ray developer. When you say old x-ray developer, what do you mean by saying that it was old?---Again, the cans of developer had an expiry date on them and I think they again must have been Buffalo or something or other like that. We had nothing new and unfortunately every time I tried to go up and get anything from the main store in Maralinga proper I would find out that all they had was 10,000 more tins of the same stuff.

Do you know how much out of date it was?---No.

Are you talking about a matter of weeks or months or years? ---Months, generally. In fact, quite often you would go through and try and find the one that was least out of date. Sometimes you might find some stuff that was only out of date by a few months.

You say you never developed a film in your life before but after one showing you were expected to be able to do it. Who showed you?---Peter Woods.

Had you observed anyone else develop film before he showed you how to do it?---No.

Pretty simple process though, is not it?---The way we did it, yes, you had one large glass beaker, about a one litre glass beaker, you put some developer in that, you tossed all the film badges in that, you tossed all the film badges in there and stirred them round for a while and set your clock going and when it was finished there you put them into another one and washed them with tap water for a while and then tossed them into a thing of fixer. Then you hung them up to dry on the clothes line.

You are not suggesting, are you, that one showing from this gentleman was not enough to enable you to do it satisfactorily?---I did it from then on, so, if that is called satisfactory.

You did it without a hitch, did not you, from then on?---I had a few hitches like the problems in trying to learn how to stabilize the temperatures because the temperature of the building was one thing, the temperature of the bath was something entirely different. You had to maintain this with a mixture of hot water and cold water, remembering that the water that came out of the tap there was very hot water. In fact, this was one of the major problems as I discovered later on. We used to get a lot of bubbling on these film badges and it turned out that it was due to the temperature of the washing water. It took the ruination of quite a number of film badges before I finally discovered that this was the actual source of the problem. It was the washing water. I was keeping the developer temperature right and the fixer temperature right, but the temperature of the washing water was - it was coming straight out of the cold tap, it was so hot it was just causing the emulsion to come loose on the film and form bubbles. When they dried, quite often, they used to just flake off, these bubbles, and leave patches and in the end there was not - you could not put it satisfactorily under the densitometer.

Your Honour, I apprehend that we will not finish Mr Rickard tonight. Because of this consequence, although I had hoped to avoid it, we will have to sit tomorrow, if that is convenient. Perhaps now may be an appropriate time to adjourn today.

THE WITNESS: It is very inconvenient for me. I have made all my arrangements to return tomorrow because it has already cost me my own three days of work this week. I have builders there waiting for me because I have just started construction of a new house. My wife is waiting for me in Townsville to drive me back. I am here all night. It is very inconvenient to me.

MR McCLELLAN: I am sorry. I was not aware of that. What time are you booked to go back?---I believe, on the midday flight.

THE PRESIDENT: What is the estimate of the amount of time to be taken?

MR McCLELLAN: I have not got one from my friend, your Honour. I suppose I will be another - - -

MR JAMES: I will be very short, your Honour.

THE PRESIDENT: Mr Eames?

MR EAMES: Shorter still.

MR McINTYRE: I would say about half an hour, your Honour.



THE PRESIDENT: WE look like being able to let Mr Rickard - - -

MR McCLELLAN: I wonder if we could adjourn for five minutes  
so that I might make some - - -

THE PRESIDENT: Perhaps we could do that.

MR McCLELLAN: - - - arrangements, your Honour.

THE PRESIDENT: How is everybody else placed for sitting on  
further today?

MR McINTYRE: No problems, your Honour.

MR JAMES: No problems until about quarter past five, I should  
indicate, your Honour.

MISS HUNTER: No problems, your Honour.

THE PRESIDENT: How is it with you, Mr McIntyre?

MR McINTYRE: I have no problems, your Honour.

THE PRESIDENT: That might not be a bad idea. We will see how  
we go. We will have an adjournment now for five  
minutes and sit on until we begin to nod off.

All right, Mr Rickard, we understand your difficulties. We  
will do our best to meet you?---That was the  
timetable I was given.

---

THE PRESIDENT: Well, Mr Rickard, without trying to cut you short in any way, I suggest that your chances of meeting your timetable will be improved if you keep your answers as short as possible. Now, Mr McClellan?

MR McCLELLAN: We were on the film badge section, Mr Rickard, you have discussed these problems when you go into the darkroom and say there was no fine temperature control and usually ran very cold. Now, if it ran cold, what would be the consequence for the quality of the developed film?---The sensitivity of the developer would change. The amount of time that the film should be in the developer would change and as the figures I had been given were for a temperature of 20 degrees C and only for 20 degrees C - - -

Yes, but if it was cold, does that mean you would get a darker or lighter film?---I do not know.

Yet in controlling the temperature of the developing solutions you say:

Was to place the beaker containing developer into a -

Is that larger container?---That is correct.

You put a mixture of hot and cold water in - and so on:

After developing the film badge they were read on an . . . . . converted to a radiation measurement.

And you have described the graph paper stuck on the side of the machine. You say:

There was no calibration for the densitometer itself . . . . . to adjust a -

What is it?---Potentiometer.

Potentiometer on it until it . . . . . certain reading.

Where the information of what this reading really was you were never able to find out, neither were you ever able to find out where the conversion graph came from. Now you describe then the way in which you continued to use the item. You also indicated that in some cases the film badges were so dark the optical density reading obtained was completely off the graph and you have referred to that before. You

say the state of affairs continued until after you discovered the cobalt 60 at Tadge. Using various other sources available you were able to estimate the strength of one of the cobalt pellets and you then used that as a method of calibrating the instrument. Now you have heard Mr Turner this afternoon say that it was not true and that there were some sources available for calibration purposes. What do you say to that?---During the two years I was there I never saw them. In fact in one of those AIRAC documents to the minister, they mentioned in fact that there was a special rig available. In all the time that I worked at Maralinga I never ever saw that caliabrations rig. Now maybe these things existed up in XA9. Never having gone inside XA9 I would never know.

If they did exist in XA9 they would have been used, would not they, for calibration purposes at your location, the location you are talking about here?---No, it was a mile away. I have no idea what was up in XA9. XA9 was a building used by the British during the trials proper. We were several miles away in another building. Where the calibration stuff came from I would not know. If there was stuff up in XA9 that one could have used, I was never aware of it.

Are you saying, or you do say, I think, that you created this device whereby calibration was capable?---No, I did not create it. The other gentleman who had been rotated in, the other member of the health S crew people who had been rotated in at that time, this ex RAAF bloke I have mentioned before, he did the calibration; he set up the jury - this rig, using laboratory stands, a standard high school laboratory stands.

Did you thereafter use this calibrating device?---Yes, we only set it up the once and we recorded enough of them that they could have been used then as the reference ones each time we developed in the future.

Right?---So that from then on it would have been possible to give, hopefully, quite reasonable results.

Was Mr Turner involved in the construction or operation of this device?---Other than directing us to go and do it, you know, he would say, go and work it - - -

Can you give me any reason why he does not recall you doing this at all?---Yes, because Harry was usually involved in about 10,000 things at any one point in time. I never ever, in all the time I knew that man, ever saw him walk. He only ever ran from point to point.

Then you make secondly, some comments in relation to the sheep, the thyroid iodine 131 measurements and you have described, I think, to us, what was involved in that process previously and your criticisms of it and you indicate that in your view it was dreamed up by British scientists, who did not know what the Australian outback was all about. Was that your view at the time by the way, or was that a view you came to after you had been to Aldermaston? ---It was a view that I had come to at the time, but was reinforced and made absolutely positive after I had been to Aldermaston and particularly after I started to read that there were other already conflicts regarding measurements taken by some scientists down near Adelaide, who I think in the earlier Buffalo series of trials and he claimed to have measured iodine 131 down there and a lot of people at Maralinga said, no, no, it could not be and when I heard that I completely understood why he would get readings and the people at Maralinga would not. He had graphs down there and the people at Maralinga did not, very simple.

You then deal with quartz fibre dosimeters, there are just a couple of things I want to ask you about that: the quartz fibre dosimeter was not used, was it, as the method of recording the accumulated dose of an individual?---Everything possible was used to record the accumulated dose. In other words - - -

Did people read the dosimeters for the purpose of writing down what had been seen?---Yes, when people came back with a dosimeter you were supposed to read it. The little charging units, in fact, had a - you could either hold it straight up to the light - remember there was a little microscope inside the quartz fibre dosimeter - you could either hold it up directly to a light or the little charging unit had a bulb inside it, so that at night time you could just put the thing in there and press the button and the bulb would shine through and you could read the thing.

But I thought that the system that operated was that the film badges were used as the method for - - -? ---Everything was used. Every reading that was taken would be put down at a log somewhere and they would all be added up and hopefully they would all match somewhere along the line. Whose job it was to finally sum them all up and check them all out I do not know. Certainly all my job was to write them down into the books.

Now you complain about the operation of the dosimeters and you say that very often they did not charge or charge satisfactorily, do you mean to infer that

the needle never went back to nought, so that as a consequence it might go to what, .2 or - - -? ---It might go half way or something or other.

And then move across?---It would move say only half way. It would never come into zero.

That would tend to give you an exaggerated, rather than a lesser reading, would not it?---Agreed, but some of them might just stay there despite any amount of ionisation.

Well, then you refer to the hot spots at Mount Clarence and I think we have satisfactorily dealt with that at this stage. is that right? Thank you, Mr Rickard.

THE PRESIDENT: Over to you, Mr James.

MR JAMES: Mr Rickard, would you have a look, please, at the two slides I now show you?---Yes, these are two slides I took at Maralinga.

Is the first dated October 1958 a slide of yourself wearing protective clothing amid an area of Sturt Pea?---Sturt Desert Pea - it may not be myself. In fact, the photograph may have been taken by myself but, yes, it is taken up on Second Avenue.

Right. Was that area in October 1958 at all contaminated? ---Perhaps in a very minor way.

The second photograph shows a group of aboriginal stockmen and is headed: Woomera prohibited area?---Fence.

Right?---It just shows a number of aboriginals - mounted aboriginal stockmen actually at one of the entry points into the prohibited area.

When was that photograph taken?---5.4.58.

And have you any awareness of aboriginal people in the prohibited area?---Once and only once did I ever see aboriginals in the prohibited area in the Maralinga village in the vehicle belonging to Jim McDougall, the native affairs officer. There were four, I believe, aboriginal males sitting in the back of them. I saw them from about 50 yards away. What they were doing there, I have no idea. Where they had come from, I have no idea. There were lots of rumours going around. They were only rumours. I do not know where they came from but that is the only time I saw aboriginals myself in the area.

You were not in the range prior to October 1957?---That is correct, sir.

The photograph you have there - the slide of aboriginal stockmen, have you any reason to believe that such persons would have entered the prohibited area on horseback or otherwise through that entry point?---Those particular people, I have no reason to believe they would have. However, one of the greatest laughs of all time were the so called fences at the entrance to the prohibited area - - -

THE PRESIDENT: Which prohibited area are you talking about, Woomera or Maralinga?---The Maralinga prohibited area. Where the road ran from Mabel Creek to Emu, there was a large steel cyclone mesh fence at one point. It went for about 100 yards either side and then stopped. That was the fence into the prohibited - - -

MR JAMES: Okay, do I understand that it was your view that that fence was no impediment whatsoever to persons who were minded to come into the Maralinga prohibited area from the Woomera prohibited area?---None at all. One could just walk another hundred yards and you would be round the fence.

Yes. You are happy for those photographs to be offered to the commission?---Oh, yes - yes.

They can remain there for the moment. Mr Rickard, firstly, how was it that you came to have this conference with the AIRAC members?---I had initially been trying to write to the Department of Energy, I think it was - had not had any replies so ended up addressing a letter directly to the minister - - -

That is Sir John Carrick?---Yes.

Did he invite you to his home?---He did.

To discuss the matter - - -?---He did.

- - - and for a drink?---He did.

Did you have that drink?---Yes, I went to his home in North Sydney and we had a very pleasant discussion.

And did he ask you if you would wish a sub-committee - or to meet with a sub-committee of AIRAC to discuss your allegations?---He did.

And did that thereafter end up with the meeting you have described?---Yes.

Did that meeting in any way correspond with the impression you had been given by Sir John Carrick of the nature of the meeting that you would have?---None whatsoever.

Could I take you to something that - or a couple a things that were said in the report to the minister at the time about the allegations made by you. Firstly, it is said at page 4 of that document that you had claimed that you were the leader of one of the four groups into which the team at Mount Clarence was organized: "The group I was leader of had only three people" - was that true?---Yes, sir.

It was suggested that Mr Page had firmly refuted that as he was there. What have you to say about Mr Page being there?---Certainly, Mr Page was a member of the ARDU at Mt Clarence. He was not a member of my group and he would not have the faintest idea.

Also in that report to the minister it was said - - -

THE PRESIDENT: What page?

MR JAMES: Yes, I will take your Honour to it, if I might. I am just finding the relative page. At page 12, paragraph 6:

And on a number of occasions  
. . . . . further  
radiation exposure.

At page 13 it is said:

According to Turner . . . . .  
. . . . . exposure to radiation

Then there is reference to Sergeant Smith. At the bottom of that paragraph it says:

Turner's statements on this point  
. . . . . dose limits being  
exceeded.

Were you, in fact - or, more correctly, was your personnel officer, when you were working at the Institute of Marine Science, informed and - perhaps I should tender the correspondence together with the statement from the department of your service at Maralinga - that you had received a dosage of 4.48 roentgens over the period September 1957 to June 1959 - last page of that annexure to the bundle of correspondence. Perhaps if I approach?

THE PRESIDENT: Yes.

MR JAMES: Do you recall that figure of 4.48?---Yes, there it is - I have the document.

And that, firstly, you were not at Maralinga in September 1957 if I recall correctly?---No, at that stage it would have been - - -

I do not think you arrived there until November 1957?---Yes, that time it would have been Mount Clarence.

Secondly, that information was forthcoming after a number of attempts on your part and on the part of the personnel manager?---Personnel officer, yes - - -

Personnel officer. And when one looks at Mr Turner's weekly reports, one obtains the following. In the report for July 1958, R32.14, you will be pleased to know there is chronicled at paragraph 1.1 the finding of the cobalt 60 pellets and the return of some of them to the United Kingdom?---Now, that it interesting because that contradicts the AIRAC report.



AIRAC - yes, I know. And you will be pleased to know that in 32.13 it refers specifically:

During a survey of Tadge on July 5 -

This being the report for June 1958, including the survey of 5 July:

Nine black metallic beads . . . . .  
. . . . . ground zero.

And there is reference then to the dose rate of those beads. A gamma dose rate of one metre being 30 micro-roentgens or milli-roentgens - I am not quite sure which - per hour, showed it to be radioactively a single long-lived isotope. Now, Mr Rickard, cumulative records were kept of your dosage and in the report for August 1958, table 3 - the film badge dose in roentgens - you are shown as in August 1958 having a dosage of 1.32 roentgen. During the period 1 November 1957 to 31 August 1958, presumably including that 1.32, you are shown as having a cumulative dosage of 3.22 roentgen and a total on range of 3.50. Could you tell us why you might have picked up .28 of a roentgen prior to 1 November 1957?---Having never seen the cumulated doses put in a table of that form, no, I have not.

So this is for August 58, which is the month immediately following the finding of the cobalt material, and then we have in September 1958, in these same weekly reports at page 3, firstly the September film badge dosage which shows you in September 1958, acquiring another .10 roentgen giving you a total since 1.11.57 of 3.22 rontgen. Now, can you tell us why that total on range figure of 3.50 should have reduced to 3.32; or does it appear that what has happened has been the September figure has simply been added to the 3.22 figure, and some how or other someone has forgotten about the additional .28? ---Seeing what went on, anything could have happened. The keeping of the records was at best a haphazard affair. I speak for myself as I recorded so many of the values.

Mr Rickard, you have obtained a copy of the report done for the Royal North Shore Hospital - I am sorry, done by Dr Chris Arthur, Haematology Registrar of the Royal North Shore Hospital dated 22 December 1982, for the Commissioner for Employees Compensation?---Yes, I have a copy of that report.

A copy of the determination of the delegate of the Commissioner for Employees Compensation, dated 31 March 1983? ---I have a copy of that.

I would seek to tender both of those documents in relation to your medical condition and its attributability to radiation. I could tender also the reference. I think you have extracted for the benefit of the commission, a portion of Harvey Johns Owens and Ross text for Principles and Practice of Medicine 18th edition and in particular page 606-609 inclusive in which the illness that was diagnosed in your case, myeloidmetaplasia with myelofibrosis, has its etiology discussed and the role of radiation is referred to there in particular the increased incidence of that disease among atom bomb survivors and others exposed to ionising radiation. Indeed, I think it goes so far as to indicate that benzine is perhaps the only other recognized basis for an etiology which is no less obscure. Were you ever exposed to benzine, as far as you know?---Never in my life.

Yes, I add that to the tender?---Just to correct a point, the actual original photocopy was given to me by someone from the New South Wales Health Department who had heard of my case and just out of interest came across it and gave it to me one time.

And I think you were regarded by Mr Wood, I should say Mr Wood and Mr Turner, to such an extent that there was a

substantial period of time when the range was left entirely in your hands, do you recall that?---Yes, there was a period when - Christmas time when I was 18 years old when I was left in control of the range, that is documented in - - -

One of the weekly reports?---No, one of the documents that is there, the report of my service at Maralinga, that two page document it is mentioned - - -

That is the annexure as supplied by the, I think, Department of Supply, is it?---It is recorded that Mr Rickard was the sole health physics officer on the range over the Christmas period 23.12.57 to 4.1.58.

Do you recall that the AIRAC people, on the basis of the statements by Mr Turner, concerning persons being taken off work having reached a dose limit, found at page 13:

Turner's statements on this point are . . . . . being exceeded.

Do you recall them saying that?---Yes, yes.

And do you recall what you have said had been that:

People had reached or exceeded the . . . . . radiation exposure?

?---Yes.

On the report for August 1958, where there is reference to the total on range of 3.5 roentgen, no doubt you will be pleased to know that on page 4 that monthly report commences:

Rickard has been taken off all active work for the time being.

Is that a matter that you would have expected would have been brought to the attention of the AIRAC committee?---Having met with them, I do not expect anything to have been brought to their attention that might conflict with their previous conclusions.

That is R32.15. Mr Rickard, in relation to the film development in particular, it is said by AIRAC, that you assert there was gross incompetence and neglect on the part of health physics staff at Maralinga. What have you to say to that allegation?---The reference is to myself and my gross - - -

It is suggested that you are asserting there was gross incompetence and neglect in the health physics staff at Maralinga. Did you ever make such an assertion? ---No, I never did.

Was it ever put to you that your allegation amounted to an assertion of gross incompetence and neglect in the health physics staff at Maralinga?---No.

I think you were at one stage one of the persons interviewed in connection with or sent a questionnaire in connection with the health report on personnel known as the Donovan report. Firstly, Mr Rickard, what has been your activities - what have been your activities since leaving Maralinga?---Maralinga, I went to Aldermaston for a while generally in electronics, came back to Australia around about 1962, worked for an electronics company - - -

Very shortly, have you become a computer programmer and expert?---Yes, one of the top.

You carry on your practice from Townsville?---My home in Innisfail, actually.

Right, and you do that by computer phone link, who for?`  
---A digital equipment corporation about the second largest computer manufacturer in the world.

Are you, in effect, a trouble-shooter when your programmes go out or discs crash or whatever the language is?  
---Yes, I cover the whole of the South Pacific region for them, Australia, New Zealand, Papua New Guinea.

Did you form a view about the computer programme used in the Donovan report indicating methodological problems?  
---Oh dear, let us call it the Donovan joke, it is the best it is referred to. Let us see, page 30 - - -

Well, without going into detail, you can supply the detail if asked to do so, I gather?---The document supplies its own details, the document destroys itself.

Right. As to the programming, what was wrong with the programming specifically?---In one place they say:

Limitation to the computer system also  
. . . . . single years.

And yet they have a six digit field reserved for that and then they start quoting answers to .001 or 0001 per cent. The two are incompatible. Someone has got to be pulling someones leg.

You would be happy to send your curriculum vitae including your publications, the lecturing posts that you have held at universities, to the royal commission?---Yes, my lecturing posts at universities are generally short term, my lecture to university computer science staff, generally for one or two week periods are very high intensive courses are not permanent lecturing posts.

In addition to that, do I understand you would be prepared to examine the personnel records of the health physics team held in the index to the monthly reports, to see if you can identify the ex-RAAF man who was standing outside with Harry Turner when you approached with the Cobalt 60?---Yes. He was also the gentleman who made the analysis of - ran the Pearson spectrometer on it and identified it as being cobalt 60.

The team that went out to pick up the cobalt 60, did some of them use tweezers at some stage?---I do not know. I prepared the jam tins for them and I had to sit back and watch because Harry would not let me go anywhere near it.

Do you recall a naval surgeon named Lloyd as part of that team? ---I remember one navy gentleman who was very very bright and he said to me one day, hey, this has got to be cobalt 60, has it not?

He was a man who indicated previous experience with matters relating to radiation?---Yes.

The large chest freezer full of batteries that you referred to in your statement - when was it that you became aware of the batteries being contained in that large chest freezer?---When I first went to Maralinga, because that was the source of all our batteries. Remember, most of our equipment was portable.

November 1958?---57.

The scientist with whom you discussed the clump readings on vegetation when he was doing his PhD thesis, about 6 years ago, who was that?---I cannot recollect his name offhand. It can be obtained, if the commission so desires. He was working for a period at the Institute of Marine Science.

Would you be prepared to supply that to the commission please? ---Yes.

Was it ever discussed with you, by Mr Turner or anyone else from the health physics team, why the cobalt 60 was so unexpectedly present?---There was very little discussion with anyone because the security clamp came down so fast.

You did not discuss it with them because of what you had been told about security?---I was told I was not to discuss it with Harry even, even though he was my boss, I was told not to discuss it with any Australian. I was instructed quite definitely that I could only discuss matters with him that I had already acquainted to them, that if I had any new information, I was not to pass that information onto Harry.

I have nothing further, if your Honour pleases.

MR EAMES: I just have one thing.

I am sorry, I was not clear where you were saying you met the aboriginal stockman; would you - - -?---Oh, right outside the security building in Maralinga village proper, right in the centre of the village.

I see. If you look behind you on the wall, you will see a map of the village and the areas where the tests were conducted, so these people who are here in the photograph were actually right inside that area? ---No, they were way out here somewhere - the boundaries are not even marked on the map. They are a long way away, out where the boundary of the prohibited area is.

Can you see map M4 in front of you there?

THE PRESIDENT: No, the one straight in front of you.

THE WITNESS: That does not show the Maralinga prohibited area in a map which I recognise.

MR EAMES: You can stand up. Can you see an area in section 400 with Maralinga marked on the map, and you referred to the Mabel Creek Road - Mabel Creek over here. Can you say where approximately it was, from this map, where the photograph was taken? Emu is there?---No, I cannot. Given one of the other maps I saw inside with the prohibited areas marked correctly on it, I could.

But it is an area right outside of the immediate surrounds of Maralinga?---Yes, immediately out - quite considerably outside.

Can you say approximately how far from Maralinga in terms of miles would it be that you observed these people?---It would have been greater than a hundred miles.

Do you know which cattle station they came from?---Offhand, no.

Just one other thing; you referred, I think, to the burial of some waste in your statement, and that you started a graveyard. Was that in the cemetery area at the airfield or was that somewhere else?---No, I think we started another one, because I think this one was between the RB area and the village proper, whereas the - the actual location is a bit - is hazy at this point of time.

Would you just have a look at this figure 18 in Pearce, page 42; does that help you at all?---The DC/RB area? I have a feeling it may have been in a westerly direction from there.

In an area not marked on that map, I take it?---I do not think it was too far from the main road. It may have been one of these.

Do you recall - - -?---The number of times one visited it, was  
- - -

Do you recall if anyone was recording the location at the time?  
---Yes. We certainly marked down on a document, you know, that this drum was placed 3 feet away from some previous drum, and I have a feeling that we may have even painted some number or something or other on the side of it. My job was more the packaging of it and things, rather than the recording of the information associated with it.

Yes, thank you.

MR McINTYRE: Mr Rickard, you mentioned the aboriginals you saw at the village in the Land Rover with Mr McDougall; do you recall when it was that you saw them, what year it was?---No. I think it was fairly late in 1957. It was post-Antler. I seem to remember there was still a lot of people in Maralinga village, that the place had not thinned out, so it must have - it may have been say, November, December.

Did you have any conversation with him about them?---No.

Were you made aware of why they were there?---No.

Or how long they were there for?---There was lots of rumours. They were only there for a couple of hours, I think, and then the Land Rover disappeared.

Well, do you ever recall any waste at all being buried in an area of the cemetery whilst you were there?---The only - - -

Any active waste being buried in an area adjacent to the airfield whilst you were there?---Not that I was involved in. The only waste I was involved with in any way was the drums I prepared and buried. I was involved in no other waste disposal.

You said that some of the waste that you had buried came, in fact, or you believed, from the DC12 laboratory?  
---Correct.

I think you said it came in a plastic container which was sealed with heat, I think?---Quite often it would be  
- - -

Did you see what sort of substance was inside the plastic container?---Generally no, because - there would be a mixture of stuff, there would be rubber gloves and Petri dishes and all - a lot of the laboratory equipment used inside DC12 was solid gold.

Did you ever see inside DC12?---On a couple of occasions, yes.  
I was not supposed to, but I was inquisitive.

Did you inside there any of the sorts of items that you say  
that were in this plastic container that you buried?  
In other words, the gloves and the containers and  
things that you were disposing of?---I saw gloves  
inside the plastic bag, that is all.

When you were asked to bury these things, or dispose of them,  
did you see them come from DC12 or is that what the  
person that gave them to you told you was their  
origin?---In fact, I seem to remember on one occasion  
going over there and just being handed a bundle of  
plastic and say, quick, we are catching the plane,  
here is the stuff, get rid of it.

Well, was it the case that it was items of equipment rather than  
waste in the sense of elements or substances?  
---Generally, yes, it was gloves and tongs and other  
things like this that had been contaminated. There  
may have been other materials in there but I would  
not know.

When did you first have to bury this stuff, do you know?---No.

How long after Antler?---I have no remembrance of it. The records  
would show that . . . . .

You said that Mr Turner on one occasion came running in,  
apparently as he used to move, and said that your  
film badge was crazy and you tried to work out where  
you had been. On that occasion or prior to that, had  
you been doing any particular work by yourself which  
might have been different from what your colleagues  
were doing?---We could not work out at the time  
anything abnormal. As I say, it was just that the  
three different bands across it were different from  
normal. It was not that the level itself was high,  
just that it was abnormal and my guess is that Peter  
Wood brought it to Harry's attention, and Harry  
obviously would have wanted to know why it was so  
high.



He was very concerned, was he?---Yes.

You told us about the anticipated reaction from Mr Turner, if you had let him know that you had been leaving your film badge behind in the Land Rovers, as being one that he would have cut your throat, or something like that?---Yes, he would have disapproved of it greatly.

Well, but you give the impression from your time there, that Mr Turner was at all times concerned that the safety standards be followed?---Yes.

How did Mr Wood fit into the picture - did he give you directions as to what to do from time to time?---Oh quite often, yes.

Did you work for anyone in particular, or for a number of people?---I worked for Peter and Harry, that was it.

You were talking about the well-equipped laboratory at XA9 which I think was a building inside the village?---Yes.

You said that that was used up to and including, I think, the Antler trials?---My understanding was that that was used during the trials period by the British to do all the film development.

And - - - ?---I never saw inside the building.

You never saw inside it?---No.

Were you ever aware of the nature or the quality of photographic material that was inside that building?---None at all.

I take it that the first occasion you had to handle the development of badges, or the first occasion in which you were associated with film badges, was when you came back in October or November of 57, after leaving Mount Clarence?---Yes; in fact, I think it would have been some time in 58 because initially they had been done, most probably, by Peter, and I was busy out range doing surveys, but as the work load started to die down, I became involved in more things and film badge developing was one of them.

Well, was it the case when you came back to Maralinga, after being to Mount Clarence, that is right, that you went to Mount Clarence, that you went to the forward area on occasions to do radiation monitoring exercises?---Yes.

And on those occasions, were you issued with whatever protective equipment you were given, at the DC and RB area near the village, before you drove up to the forward area?---No, we put the protective gear up front of the caravan.

I see?---But remember we were health physics as well, so we issued ourselves.

From the caravan forward or from back at the village?---From the caravan - the caravan was always kept stocked with stuff so you just drive up there in a yellow vehicle, go and change into some overalls or something or other and then head off and do your job.

When you went through that caravan, were you issued with an additional film badge?---No.

You took with you the film badge that you had had always?---That I already had on, yes.

When were you first issued with that film badge?---The very first one, I suppose, would have been immediately after arrival at Maralinga.

How often were the film badges changed over?---Initially, at relatively short intervals but later on, it became you know, perhaps a couple of months, an odd - - -

Well, were you aware when you had been issued with film badges, after your first film badge was issued, the source from which the film badges were taken?---No, initially not at all.

Well, subsequently, were you aware of the source from which the film badges were taken?---Only - once I started to work with Peter and see him doing the development and see him, where he got the new badges to issue from, did I understand where they were coming from.

Sir, you said in your statement, at the first page of your annexure, that is, the smaller typed statement you prepared for, I think, Professor Kerr, you said that the film badges issued were- at line 2:

The film badges issued were some . . . . .  
. . . . . to personnel going into the  
blast areas.

I take it you are not suggesting that the ancient film badges - or the ancient film that you say you saw in the place where you developed the film - was issued to personnel going through the caravans during the occurrence of the Antler trials?---Oh no, I was not even there during the Antler trials, so how would I know?

And would it be consistent with what you believe the fact was, that the film badges issued to those present during the Antler trials, were issued from the stock held at the building known as XA9?---That is my belief. I do not know but I would have to assume that that is the case.

You have mentioned these problems you had with the development of film badges, the problems of calibration of the densitometer and the heat causing some of the films to reduce the assessable area, but did you discuss these

problems with Mr Wood?---Yes.

Was he present with you when those problems were apparent?---Yes.

Did you discuss with him the apparent deficiency in the calibration of the densitometer?---Yes.

What did he say?---Regarding the problems with the water, we eventually tried to work out what was causing it and we finally came - we thought it was the over-temperature water - - -

You can come back to the water in a minute. Did you have any specific discussion with him about the apparent inability to properly calibrate the densitometer?---Yes.

And what did he say?---Not a lot because, remember he was a chemist, in fact, an ink chemist by trade.

Did he appear to have a limited knowledge with the operation of the densitometer?---Yes, I believe his electronics knowledge was minimal.

Did he have any more knowledge than you on that subject, at that time?---I think we were equally vague.

How old was he at that stage?---Oh, he would have been in the 29s, or something like that.

And you said he was a chemist?---Yes.

Did he ever, from anything he said, exhibit any apparent lack of knowledge on the subject of the operation or calibration of the densitometer?---Yes.

What did he say?---I asked him what we would do, when we had to replace the bulb one time, because the bulb had blown and he said, "All we can do is stick it back and make it register the same as it was before".

Was this densitometer located at the DC and RB area?---Yes it was.

Inside a special building?---Inside our normal building, the one our offices and local laboratories were in. It was in a - - -

Was there a dark room in there?---Yes, it was a very small room that had obviously been converted over into a dark room.

And was the densitometer in the dark room?---Oh no - - -

Outside the dark room?---There was no need for it to be in a dark room, it was outside with all the other electronic instrumentation.

Well, did you ever discuss with Mr Woods the apparent difficulty in calibrating the densitometer?---Yes.

And what did he say about that?---That is what we have just mentioned. He said, well, all we can do is set it back to the - - -

I am sorry, I thought you were talking about the bulb?---Yes, that is the same thing. This is all the calibration.

Well, did you then mention to him, or have a discussion with him about the apparent lack of a radioactive source by which you could calibrate the densitometer?---I do not know.

Were you aware that one of your problems was, as you say, the absence of a radioactive source to properly calibrate it?---Yes.

Was there ever any suggestion by you or him to each other, that you might approach Harry Turner about the lack of an adequate radiation source to calibrate the densitometer?---Some discussion, but everyone seemed to regard it as an item of so little importance but - you know, you mention it and you do nothing about it.

Well, this occurred after Antler, did it not?---Yes.

How long did the situation last for, that you say you had problems with calibration of the densitometer?---Oh, up until the time we found the cobalt 60 and we used one of those, we were able to calibrate it and then we used it to make a set of reference samples.

Well, in that period between Antler and then, were you, do you say, responsible with Mr Wood, for the development of all the film badges that were being used at Maralinga at the time?---I will not say all of them, but certainly a good chunk of them. I do not know what else - what was being done elsewhere.

Was there any other place, to your knowledge, that was developing film badges from time to time?---Not to my knowledge. There may well have been, but not to my knowledge.

Apart from the health physics personnel, were there many people after Antler that were involved in going into the forward areas and bringing back their film badges for measurement?---Initially yes but, as the numbers dwindled, the number of people going into the forward area became very small.

Did you see Harry Turner very often?---Every day, generally every day.

Were you concerned about this difficulty with calibration of the densitometer?---A little but not greatly because no one else seemed to be worried about it, you know, as I keep saying, I was a very junior member, why should I - I assumed that was the way things were done.

Well, do you say by that stage that you were - even though you were inexperienced prior to arriving there - that you were aware that the deficiency in the calibration of the machine was such that it would render the subsequent readings of the developed film badges unreliable?---Yes, I remember, a lot of my opinions on this were formed after I left Maralinga and went to work at Aldermaston as a member of the health physics group there, and saw the way film badges were handled there; and then when I looked back on the way we did them at Maralinga, I cringed. You know, I was horrified when I compared the way - the beautiful way they did them at Aldermaston, calibrated and referenced all the way down, cross referenced, when I thought of the way we were doing it at Maralinga, that is when I realised how wrong we were doing it.

Do you exclude the possibility entirely that the machine in fact might have been calibrated and you did not know of it?---I changed the bulb; I had no way of resetting the calibration, except just to turn the potentiometer knob and put the thing back. If there was any calibration beforehand, I completely ruined it by changing the - having to replace the bulb.

Do you perform the calibration to set the instrument, or to assess the effect of a radioactive source upon the batch of film being used?---All of these things have to be taken together, right through.

Is not it the case that the calibration was only to assess the effect of radiation upon a particular batch of film that was being used?---Yes, but to do that correctly, one then needs a reference set taken out of the same batch which had been pre-exposed to known amounts of radiation. We did not have those. Therefore, one had to rely on this graph being okay, which relied upon the luminosity of the bulb, in the absence of all those other cross checks. As far as I was concerned, many of them were really just guesstimates.

Most of them? The majority of them? The majority of them?  
---Most probably.

Do you say that there were any film gauge measurements which you took which were accurate?---I could not have ever taken any accurate ones with the equipment available at my disposal.

Well, if what you are saying is correct, then would not it follow that every film badge developed whilst that

densitometer was in that state was faulty?---Yes.

And did that at all concern you? That every reading that you were taking was unreliable?---It worried me a little, but no one else seemed to be unduly worried; and I thought this was normal. Remember, we were not as sensitive about it - I suppose if we had thought at the time that in 25 years time this was going to become the subject of a royal commission, we would have dotted our i's and crossed our t's down to the last microcurie, or something or other. But to a great extent it was just, you know, were they in danger or not.

And this worry you say, although minor, was not sufficient to raise it with Harry Turner?---I may have even raised it with Harry I cannot recall, but certainly at the time it seemed of a relative minor importance, until I - - -

Well, you have said Mr Turner was a man very conscious of following - abiding with safety standards. Do you think that if you had mentioned it with him, he would have expressed some concern that this machine was not properly calibrated and was giving consistently unreliable and misleading readings?---I cannot express what another person's assumed concern may or may not have been.

But it would have been remarkable, would not it, if you had expressed that concern to Mr Turner, with that - his concern for safety procedures, that he would not have done something, or at least explained to you why it was not important?---Well, I think the thing that was done finally was once we had available a source, we did something about it; and in fact we did that calibration run at his direction.

Well, when you found the cobalt 60, who was it that first suggested that that be used as the radioactive source to calibrate the respective batches of film?---I believe it was Harry's suggestion.

And did he say, oh, at last we have got something we can use? ---Not in so many words. He said, well, you know, go and set it up; work out what its activity is and go out and use it and calibrate - run a set of calibrations.

Did he express any concern at all at the time that cobalt was found and, as you say, used for this purpose, that there had been no radioactive source for the preceding many months?---Not particularly. He may have had concerns, but he did not express them to me.

I take it this cobalt discovery was a complete surprise to you?---Totally out of the blue.

It was a complete surprise to everybody there, every Australian there?---Yes. Yes.

How long after the discovery was it that this pellet, this source, was used in the densitometer?---Quite shortly afterwards, because in fact the pellets did not stay around for long. They were got rid of real quick.

You mention the security officer who told you to clam up about what you had seen, and you said, I think, that you could not recall his name, but you thought he was an English person?---He was an English security; he certainly was not Australian security.

You are very definite. What is your recollection of the man to say that he was British? The way he spoke or the way he acted or what?---The clothes he wore. The Australian security people wore one sort of clothing and British wore another.

Do you recall roughly how old he was? Is there anything that you can indicate by way of description?---None at all. It was just a very short interview, quick, sharp and to the point.

Was he a person that you had seen at the village before that, or did he just suddenly appear out of nowhere?  
---At that stage there were still quite a lot of people around to - - -

You could not tell?---Yes. I could not tell. He could have been a permanent - but lots of people I did not - - -

Just a couple of final things. You have referred to the leaving of your Land Rover, or leaving your film badge inside the Land Rover, when you went forward in an attempt to minimise the exposure that is recorded, how long do you think these sorties were into the forward area, that you undertook whilst leaving your film badge back?---Sometimes several hours. It took quite a time to do a complete quota survey.

How long was it that these conditions of lucrative overtime lasted before it was removed as an incentive?---Only a matter of weeks.

Do you say you made about six sorties in those weeks, well not more than six sorties in those weeks, when you left your film badge back in the Land Rover?---It was only a small number; yes, I would say about six or so, yes.

You were asked before whether any other people did that with you. Can you recall the names of any people that might have done that?---No, I just remember that - I was originally introduced to the idea by a couple of the army blokes who had been with the health physics group during the Antler period.

Do you recall their names?---No.

When you did this, I take it you did it without telling anybody around you? Or did you do it in concert with some other people?---Initially, just in concert with the army blokes, you know. They would leave theirs behind, so I - and I would ask why: Oh, you know, because you will get - we will get knocked off if we - will not be allowed out front again; and, oh gee, you know, that would cut my overtime, would not it. And - - -

Were the army personnel getting paid overtime?---No.

Well, how would the placing of a film badge back in the Land Rover be of any attraction to them?---Because they still wanted to work out front. It was all a place of excitement.

Well, it was your - - -?---No one wanted to work back at the village or somewhere like that, my God.

Was your motive of leaving the film badge in the Land Rover one of pecuniary advantage, or excitement, or a bit of both?---Bit of both. In fact later on, after they cut out the overtime, it was purely to be able to get in the hours out front; and in fact even in Harry's reference there, he points out how I worked so many additional unpaid hours, because it was good. It was exciting, for a 17 or 18-year-old out the front - - -



Well, you had been through a training course before you went to Maralinga, had not you?---Two weeks, yes.

And you had some instruction then about the hazards of radiation?---Yes.

Were you aware from that course that there was a need to limit the amount of radiation to which you could be exposed?---Yes, but the theory generally tended to be that there was some kind of threshold limit and it was enforced all the time - oh yes, these values are so many times less than that that would cause any danger that everyone felt - oh, you are safe anyway.

You realised, did not you, that those limits had been set for the point of ensuring the safety of individuals who were in an area which was exposed to radiation? ---Yes.

Would you have been aware when you left the film badge in the Land Rover that you were contravening a practice which you had been told was designed to ensure, as far as possible, that radiation levels were kept to a minimum?---Agreed, agreed.

Now, one last thing, you talked about the removal of the filters from the DC12 area. I think you said that you were not aware of any radiation hazard but you thought there might have been a toxic hazard from contents of the filters. Were you aware, or have you become aware since then that the contents of the filters would be a substance known as thorium B?

THE PRESIDENT: What is your answer?

MR McINTYRE: You say, no, you are not aware of that?---No, I was not aware. I was vaguely aware at the time. In fact I had worked out that maybe there was thorium involved. I did not know because of various comments about daughter products, so I had looked up some documentation and things and tried to work backwards and I had guessed the possibility that thorium could have been involved but there was no proof I had of that at all.

Were you aware that thorium B is not a toxic substance?---No.

You refer in your statement to the times out of Mt Clarence when you were finding fall-out and on occasions you missed it. I take it that you were out in that area for the duration of the Antler series, that is the three explosions?---Yes.



And you were actually sent out on three occasions after each explosion?---No, we were sent out before them.

I am sorry; but you were out there working for each of the tests?---Yes.

For what duration were you out there on each of those visits, each of those journeys?---Well, you might make a dozen journeys before the shot would finally go off, because they would be cancelled day after day.

But was there one trip in relation to each of the explosions that you have made when you actually experienced or monitored fall-out?---Yes, in one case in fact we were so far away that we did not measure anything at all. We were - other members of the group may have been able to, but we certainly - - -

You say on one occasion you were so far away nothing was measured? You say one occasion the contamination fall-out was such that you had to ultimately shave your hair off because it was so contaminated that it would not wash out?---Yes.

What happened on the other occasion, did you encounter fall-out, do you know?---I cannot recall.

See, in your statement, you say on page 1, after referring to your job at Mt Clarence, you say:

Many times the changes in wind meant that we completely missed the fall-out.

Now, what were the many times when you missed the fall-out?---Many times we went out, okay. Once we missed the fall-out entirely.

Was it not the case that on many times you went out there was no fall-out at all, because the tests had not taken place?---That is correct, yes.

Just have a look at the first page of your statement there; would you agree that - you see towards the bottom, about 10 lines from the bottom?---Which statement are we talking about.

The statement you gave to the Royal Commission?---What page?

Page 1, line - tenth from the bottom. You see, it says there:

Many times the changes in wind meant that we completely missed the fall out.

Well, to be more correct would that read, on one

occasion the change in wind meant that you completely missed the fall-out?---Yes, that bit should have been expanded a lot more.

Is it the case that you only recall on one occasion that you actually came into contact with fall-out, as far as your recollection was concerned?---Yes.

Did anybody else have this problem with inability to get the fall-out from their hair?---I do not think so. I think I might have still been the only Brylcreem kid.

Who were the other two people with you, do you recall?---Two very old gentlemen who, frankly, should never have been recruited.

Do you recall their names?---No, not at all.

Did you know them before you went to Maralinga?---They only went to Mt Clarence, in fact one of them resigned while we were at Mt Clarence and so there was only two of us; it came that there were only two of us as the team. He never went to Maralinga at the conclusion of the Mt Clarence.

After you obtained the cobalt 60 source, you said, to calibrate the densitometer, do you have any complaint as to the method of development or monitoring of the film badges after that?---No, I think it was done quite well after that; certainly there was a sufficient number of samples and things but, you know, the number of people being issued with film badges at that time was about two or three per month.

Thank you, your Honour.

MR JAMES: As my friend has tried to set up a defence . . . . .  
. . . . might I, in re-examination, simply ask as to the attitude of the health physics team to the ICPR or other limitations of radiation they were told about?

THE PRESIDENT: We are not really conducting a common law action here, are we, Mr James?

MR JAMES: I hope not, your Honour, but since that was what the intent of the question appeared to be - I have made my point.

MR McCLELLAN: Your Honour, with respect, the terms of reference require - - -

THE PRESIDENT: I agree, I will not allow it. Now, Mrs Fitch is going to ask a question.

MRS FITCH: Mr Rickard, whilst you were at Mt Clarence, were you supplied with film badges or any other form of radiation monitoring?---I cannot recall. It may have been thought that we were so unlikely to get anything that they did not bother, but, frankly, I cannot recall.

THE PRESIDENT: Mr McClellan?

MR McCLELLAN: No, I have no further questions, your Honour.

THE PRESIDENT: All right. What is the state of play?

MR McCLELLAN: The state of play is that Mr Rickard can be excused.

THE PRESIDENT: Yes, you are excused. Thank you, Mr Rickard, for coming down on such a long journey from Innisfail and giving your evidence. You are now excused from further attendance.

THE WITNESS WITHDREW

MR McCLELLAN: In the event, it will not be necessary to sit tomorrow. I would propose that we should sit in Adelaide on Monday at 2.00 pm in the GRE Building on the corner of Gawler Place and Grenfell Streets which is the location the commission sat in when it was last in Adelaide. The same floor as before, we think it might be the tenth.

THE PRESIDENT: We will adjourn to Adelaide at 2.00 pm on Monday. Thank you all for working overtime.

AT 5.55 PM THE MATTER WAS ADJOURNED  
UNTIL MONDAY, 19 NOVEMBER 1984