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2009 VICTORIAN BUSHFIRES ROYAL COMMISSION

MELBOURNE

FRIDAY 27 NOVEMBER 2009

(87th day of hearing)

BEFORE:

THE HONOURABLE B. TEAGUE AO - Chairman

MR R. MCLEOD AM - Commissioner

MS S. PASCOE AM - Commissioner
CHAIRMAN: Before I call on you, Mr Rozen, I would perhaps indicate that the Commission has noted that the Walkley Awards were presented last night and that The Australian's Gary Hughes, who unfortunately I think is sick, has taken out the most prestigious award, the Gold Walkley, for his account of the Black Saturday bushfires. Without going into detail, I understand that the Herald-Sun journalists and the ABC has also taken out a number of awards. So we congratulate them, but of course particularly congratulate Gary, who has been a regular attender at the hearings of the Royal Commission. Mr Rozen.

MR ROZEN: Thank you, Commissioners. I recall Allan Monti.

<ALLAN FRANCIS MONTI, recalled:

MR ROZEN: Mr Monti, we reached a point in your evidence yesterday afternoon where I was about to ask you some questions about training and the training of volunteers. It is a matter that you deal with at paragraph 37 of your statement. Firstly, can I ask you about the figures that are referred to in paragraphs 38 and 39 of your statement. You there identify that, as you understand the position, there are 10 volunteers who are endorsed as level 3 incident controllers for the forthcoming fire season and you then extrapolate from that in paragraph 39 and state that it means there is only one in 6,000 volunteers currently endorsed as a level 3 incident controller. I would like to put to you some of the evidence we heard yesterday about those figures. We heard from Mr Haynes, the deputy chief officer of the CFA, that there are in fact some 28 in total, if one includes fully endorsed and endorsed with a mentor. We also heard some evidence that, of the 60,000 volunteers, 30,000 or so are referred to as...
active volunteers, figures that are now familiar to you from the evidence we heard yesterday?---They are, yes, thank you.

You accept Mr Haynes' number of 28 in relation to the endorsement of level 3?---Absolutely.

You also agree with the proposition that approximately 30,000 of the volunteer force are what are described as active volunteers?---Correct.

If one uses those figures, then it still reaches a position, does it not, that of the active volunteers, something less than 0.1 per cent are endorsed as level 3 incident controllers, if you accept my arithmetic?---Yes. Within the other 30,000, if I might say, there are still significant capacity for those people to operate within higher level command roles purely because of their background experience. So, even though they may well no longer be operational, as we would call them, they still fulfil a significant role and can fulfil some of those higher level roles.

You would agree with the evidence that was given by Mr Small in relation to that matter yesterday afternoon?---Yes.

The final matter that I want to take you to in relation to training concerns the broader issue that you have raised, which is that there is a need for flexible and volunteer-focused training. As you say in paragraph 41, this is not yet been adequately addressed. I think you were in the hearing room yesterday when Mr Haynes gave evidence that in an integrated fire service, if the CFA doesn't accommodate its volunteers' training, then it won't survive as an organisation. I take it you agree with that as a general proposition?---Yes.
Do you also accept at a general level that the CFA, as described by Mr Haynes, does go to considerable lengths to accommodate volunteers in terms of training on weekends, out of hours and the other ways which were described by Mr Haynes yesterday?---I couldn't agree wholeheartedly with that statement, no.

You obviously consider that there is more that can be done?---Considerably more.

Would you like to just expand on that, please?---In my discussions, as I said yesterday my role is substantially a field officer, and talking to volunteers around the state and my own experience, CFA fails in three systemic training areas: Mode of delivery, if you like, methodology in which they approach adult learning. We are basically dealing with an adult environment and the elements of adult learning are not practised. The opportunity for volunteers and for any CFA member to address training and attend training and undertake training is another area. Thirdly, is their capacity to deliver that training. If I may, I would like to just broaden a little bit on each of those.

Please do?---With my experience, my professional career largely through my working life has been in education and training and significantly with instructional design and understanding how adults embrace training and uptake training. We are working with a field within CFA where we are imposing training regimes on people that need to access that training in numerous ways. They learn in different ways; many are tactile learners, many are cognitive learners. I think it was brought in evidence yesterday that we have changing generations of volunteers,
volunteers that potentially buy in for only short periods. We need to address that. CFA needs to address their opportunities to deliver training in a number of different ways. Their primary method of delivering training is face-to-face, what I would call from my past experience chalk and talk, people sitting in a room being delivered masses of information and then sitting down to a written examination thereafter, which ultimately is a memory test. CFA to some of their credit have dabbled with off-site training, on-line training, flexible delivery, off-campus training, but it has been very minimal and when we look at the span and geographic location of our volunteers, that would be a significant incentive for volunteers to take up training, particularly at some of these higher level courses, if there was some different methodologies applied. By and large, their training methodology is come to a training course, travel many miles, sit down, be talked at, spoken to, whatever you want to do, do the examination and go home. Now, that's a disincentive and if we are looking for people to take up the challenge and they are willing to do the challenge and have masses of experience to do that challenge, then they need to be embraced in different ways. My further experience in training was with the Defence Force and they exemplify that method of using distance learning, off-campus learning, to deliver the training to their people where they are. I think CFA could learn a lot from looking outside their own boundaries as to how to deliver training. The second point -- --

COMMISSIONER PASCOE: Can I just interrupt you there. I want to clarify, when you make the critique, are you taking
into account the hands-on training that's delivered at the
brigade level? Are you factoring that into your
assessment?---Yes. Even within that, Commissioner, the
elements of training are really set in the 80s, if I might
be so bold. When I began my training career, the
predominant method was chalk and talk and everyone would
come along and do their thing. We are still not to the
point where people can access it at a time and place of
convenience, particularly volunteers, who need to be able
to grab those moments we talked about yesterday.

Even at brigade level?---Even at brigade level there is an
opportunity. Really, because of the way training
materials are often developed and the delivery modes are
instigated, there is no choice. You turn up; if you are
not available, you miss out and then you wait for the next
opportunity. So there is a huge opportunity to embrace
those elements of training that are, if you like, the
theoretical, the underpinning knowledge that people need.
Obviously to do the practical or the scenario-based or the
computer-based training, there are other options there as
well, but certainly in this modern age - and many
organisations are trying these different methods. Number
one it's difficult, number two it's more costly - - -
I'm sorry, I am very conscious we have severe time
constraints?---I'm on my passionate area here.

I, too, am from an educational background so I share the
passion. But I just also want to put to you that
Mr Haynes yesterday talked about some inconsistency in
various areas across the state which the CFA are looking
to address. And I'm minded of the evidence of a Mr Bill
Speirs, who was a volunteer CFA firefighter for many years
and has moved into becoming a wildfire instructor, and he gave evidence of engaging people and the result being that they embraced and enjoyed the learning. That was from the western part of the state?---Sure.

So it seems that what we have heard to date is that there are some different modes and that there is some inconsistency across the state and if we were to generalise, using Mr Haynes' evidence yesterday, that the issue is, I suppose, seeking a level of improvement up to where we do find best practice or good practice?---Yes.

You would accept that?---Yes, I would accept that there are different elements. Inconsistency across the state, across CFA training regimes is one of the key elements we would like to see, we would like to work with CFA to improve. I will move on very quickly. I'm conscious of your time. The opportunity is absolutely linked to the mode of delivery. If we can provide training in an environment at a location that's convenient for CFA volunteers to attend or uptake, it will improve the uptake of training. The capacity links to the ability of CFA to actually engage enough trainers to deliver the training where it's needed. The current career staff trainers are significantly overloaded. The CFA is unable to reach agreement with the career staff's representative body, the UFU, to appoint and allocate sessional trainers with the right currency and experience to deliver the training. There is little opportunity; I have examined quite at depth the statewide training plan and also the area training plans and within the capacity of the next nine months the current programs that are allocated provide only a very small amount of opportunity for volunteers to
attend and that means the rest of the courses are mid-week or business hours.

Thank you, Mr Monti. They are the matters I wanted to put to Mr Monti this morning. I understand there is some cross-examination from the State.

<CROSS-EXAMINED BY MR LIVERMORE:

Mr Monti, my name is Livermore and I represent the State of Victoria, which includes the CFA?---Good morning, Mr Livermore.

I think you have probably been told by your counsel that I intended to ask you about the estimate you gave at paragraph 31 of your statement about 18 CFA endorsed level 3 incident controllers within a 50 kilometre radius of the Kilmore fire ICC. Can I say at the outset that it is certainly our position that it would have been far preferable had a level 3 incident controller got to the Kilmore ICC more quickly than Mr Kreltszheim. But in relation to your estimate of 18, our analysis demonstrates that on the day there were only two authorised level 3 incident controllers within 50 kilometres of Kilmore ICC. They were Mr Peter Creak, who was occupied at the Seymour RECC, and Mr Bob Potts, who had been rostered on the IMT roster as a safety officer for the day before the 7th but not rostered as available to fill an IMT role on the 7th. They were the only two within 50 kilometres. Do you have any material to dispute that analysis?---No. The analysis, as I gave evidence yesterday, was based on the fact that, in any form of preplanning for a substantial fire event day like 7 February, a simple exercise of identifying from the human resource plan who potentially was available within that geographic area is quite a
simple process. You look at the human resource plan, you
look at the location of the incident control centre. In a
preplanning mode one would expect that the people
preplanning that ICC would have made those necessary
arrangements. We have no understanding of where those
people were actually tasked on the day. Our analysis was
done really on the basis of what potentially could have
been if enough preplanning had have been done.

In relation to your evidence about the number of volunteer
level 3 incident controllers for the coming fire season
and it being a very low proportion of the overall
volunteer numbers, it is true, is it not, that of the
total of 60,000 or the 30,000 operational, that there is
actually a very small percentage of those number of
volunteers who are in a position like Mr Small who have
the capacity and the desire to move into those upper
levels of management?---I would say CFA have known what
that capacity is. They haven't tapped into the capacity.
It is under-utilised.

The question is it is a very small percentage of those total
60,000 volunteers that have the desire, as Mr Small does,
to proceed to the higher level management
positions?---I would not agree. I would suggest that
there are disincentives for people to take up the
challenge.

You make it clear at paragraph 14 of your statement that the
CFA does a great job, and then you note that there is
always room for improvement. Then at paragraph 18 you
list three matters that need to be addressed;
acknowledgment, accessibility to training opportunities
and universal recognition. Can I suggest to you that the
correspondence that's been tendered as part of exhibit 549, namely Mr Rees' memo of August 2007 and his letter to the South Australian Coroner of January 2008, are at least a start in terms of the acknowledgment of the contribution made by volunteers in Victoria?---The letter is certainly welcomed. It is one element, within a consultation with CFA over many years, of recognising the value and utilising that resource. We would maintain that this letter was an indication to their senior operations people to consider ways in which volunteers could be better utilised. I don't yet see great evidence of that being undertaken. It was certainly a suggestion, not a directive.

Certainly Victoria can be contrasted in that regard to South Australia, where the Coroner made the express recommendation that career firefighters be given preference in IMTs. As we saw yesterday, that was firmly rejected by the CFA?---And we welcome that rejection.

<CROSS-EXAMINED BY MR TRAGARDH:

MR TRAGARDH: Mr Monti, my name is Andrew Tragardh. I'm appearing for the United Firefighters Union. I won't be long?---Good morning.

Good morning. In relation to the figure of the 30,000 approximate operational staff that we were just talking about in relation to your statement where you initially said it was one in 6,000 volunteers were trained up to level 3 incident controller capacity, you are not suggesting, are you, that that 30,000 comprises a whole body of people who are intending or would expect that they might be trained to that level?---No. Within any level and certainly within that number of people there is a
whole range of skills and abilities. We maintain that in such a large pool there should by rights be a higher percentage, you would expect, under normal circumstances, that could take up that level of responsibility given the opportunity.

Of course. But certainly you are not saying to the Commission that there is a large body, 30,000 people, who are disgruntled because they are not going to be trained up to level 3 incident controller status. They are quite happy being on the trucks?---If they have the capacity and opportunity, though, that percentage, that indicated level being so low would indicate to me and to my colleagues that there is an insufficient opportunity for people that are able to take that role on and have not yet been able to achieve that.

You have mentioned and you would agree with the general proposition that the United Firefighters Union have expressed and shown over a long history a concern that all firefighters receive quality training. You would agree with that?---Absolutely.

You would agree that the enterprise bargaining agreements reached between the United Firefighters Union and the CFA, the conditions are reached after a very rigorous process of negotiations and consultations?---I have no knowledge; the volunteers are not party to those negotiations.

You are aware, are you, that the EBAs are regularly updated? They last for only a certain duration?---I believe they are timeframed, yes.

Are you aware that during the term of the EBAs that there are regular consultation methods in place between the two organisations regarding matters such as training?---Again,
we are not part of that and we have no knowledge of that.
The CFA board signs off on the EBAs, don't they?---I imagine so. I don't belong to the CFA board.
But the Volunteer Fire Brigades of Victoria occupy four seats on the CFA board, don't they?---That's correct.

Thank you very much.

MR ROZEN: Apparently there is no further cross-examination and there is no re-examination of Mr Monti. Could he please be excused?

CHAIRMAN: Yes. Thank you, Mr Monti. You are excused.

MR ROZEN: Before I vacate this spot, can I address the tender of a couple of additional documents.

CHAIRMAN: Yes.

MR ROZEN: Firstly, there is a bundle of documents which fall under the banner of the Fire Agencies Improvement Initiative. It is a process which took place in I think 1997/1998. It was referred to by Mr Haynes. There are three references that I would read out and ask to be included in an exhibit. The first is (DSE.0179.1445.0001). The second group of documents start at (DSE.0179.1445.0058). The third, the final report of the project, is at (CFA.001.031.0099).

CHAIRMAN: Is that all for that exhibit?

MR ROZEN: Yes.

MR ROZEN: There are three matters to tender to complete the
evidence in respect of the Murrindindi fire. The first is
a statement of Bruce Ackerman, which is at
(VPO.001.034.0294). The second is a statement of Gary
John Creighton, (VPO.001.040.0177). The third is a
document that's been prepared, as we understand it, by the
Bureau of Meteorology entitled "AGS fireground weather
reports prepared by the Bureau." That commences at
(BOM.901.0001) and consists of an analysis of weather
aspects of the fires arranged as per fire.

#EXHIBIT 555 - Witness statement of Bruce Murdoch Ackerman
dated 12 March 2009 (VPO.001.034.0294) to
(VPO.001.034.0306).

#EXHIBIT 556 - Witness statement of Gary John Creighton dated
27 October 2009 (VPO.001.040.0177) to (VPO.001.040.0190).

#EXHIBIT 557 - Meteorological Aspects of the Churchill Fire on
7 February 2009 (BOM.901.0001) to (BOM.901.0047).

MR ROZEN: If the Commission pleases, that concludes the
examination of the systemic matters that was commenced
yesterday morning.

CHAIRMAN: Yes. Thank you, Mr Rozen.

MR RUSH: Commissioners, I call Mr Adams.

<PAUL JOHN ADAMS, sworn and examined:
CHAIRMAN: Take a seat, Mr Adams. Make yourself as comfortable
as you can between the microphones and then ignore them.

MR RUSH: Mr Adams, your full name is Paul John Adams?---That's
correct.

You are at present the managing director of Jemena?---That's
correct.

Jemena is a wholly owned subsidiary of SP Ausnet?---No.
Of Singapore Electric?---It is a wholly owned subsidiary of
Singapore Power International, which is wholly owned by
Singapore Power.

The same conglomerate, for want of a better word, owns SP
Ausnet?---Singapore Power International has 51 per cent of
SP Ausnet.

Jemena is responsible for electricity services to northern
parts of Melbourne?---That's correct.

From 1 April 2005 until 7 November 2008 you were the general
manager of network services of SP Ausnet?---That's
correct.

By way of background, you commenced with the State Electricity
Commission of Victoria in 1981?---Yes.

You set it out in your statement, but you have engineering
qualifications and a continuous background since that time
in the electrical asset management and electricity
industry?---Yes, I have worked in electricity and gas.

You have provided to the Commission a statement, as
I understand it, prepared in consultation with the SP
Ausnet solicitors, Freehills?---That's correct.

For the purposes of your evidence. Are the contents of the
statement true and correct?---That's correct.

I tender the statement of Mr Adams with its attachments.

#EXHIBIT 558 - Witness statement of Paul John Adams
(WIT.5103.001.0001).

MR RUSH: At page 32 of your statement, Mr Adams, at
(WIT.5103.001.0032), we have set out there the SP Ausnet
supply area?---Yes.

And broken up into zones that are important in relation to the
distribution and supply of electricity for that
area?---(Witness nods.)
The evidence, Mr Adams, before the Royal Commission and materials in the Victorian State Government Green Paper is that the impact of climate change will increase average annual temperature, increase the frequency of drought, we can expect more extreme temperature days and an increase associated with wind speed. That scenario, you would agree, carries with it an increased risk of electrical fires?---I don't know if it carries an increased risk of electrical fires. It carries an increased risk to the electricity network, yes.

And it carries with it an obligation on behalf of, for example, SP Ausnet, to do all in its power to minimise the risks that are associated with electricity fires?---I'm sure - I can't be sure - but I would be fairly confident that SP Ausnet would be doing what it can to minimise the risk of fires.

Mr Adams, during your time particularly with SP Ausnet, were you made aware of a Powercor position paper of 26 April 2005 whereby Powercor indicated to the Essential Services Commission in Victoria it had an obligation to investigate the benefits associated with the undergrounding of electricity wires and cables, conductors, in high bushfire risk areas?---I'm not aware of that particular paper, no.

In that paper Powercor proposed that powerlines in high risk bushfire areas be undergrounded. You are not aware of that at all?---I'm not aware of that particular paper, but it would not surprise me. There have been a number of papers and documents written regarding undergrounding of electrical lines.

In the paper that has been put before the Commission, Powercor noted research that they had undertaken that indicated...
there was broad community support in those areas for the undergrounding of power cables, that small business supported it, most residential personnel who were surveyed supported it and people were prepared to pay an increase in the cost of electricity, power supply, to get undergrounding of cabling in those high bushfire areas. Would that be something that your company would support?---My company being Jemena, or which company are you referring to?

This is probably a bit of a problem with you giving evidence, but you have had significant experience now with the SP Ausnet group?---Yes.

If you were asked that question when you had your position with SP Ausnet, with that background, surely it is something that you would support as extremely worthwhile in relation to investigation?---My view is that it would be worth investigation. If I may, in my time, looking as the general manager and in other roles, I was aware of information that was provided to the Essential Services Commission on behalf of those assets. Sorry, I didn't catch your name earlier.

Rush?---Mr Rush. If I may, in I think it was the 2006 electricity price determination, the SP Ausnet assets - I think they were called that back then or they might have been TXU, there was a change of ownership - put a submission to the Essential Services Commission requesting that an area of the Dandenongs be undergrounded. In that submission there was the fact that it would reduce the fire risk, it would also reduce the number of impacts or improve the reliability because there are quite significant mountain ash around that area, and also in the
areas that were selected it would improve the aesthetic
appearance because one has to trim vegetation around and
that's a major tourist area for the state. We worked with
the local council, the government, the community and put
forward a proposition I think in the order of around
$30 million to underground that for those reasons. It was
knocked back on the basis that the terms in the regulation
are least cost technically acceptable solution and the
least cost solution is overhead powerlines. So, in
relation to Powercor, I'm not aware of that document, but
I am aware of other opportunities and efforts to try and
have some of this work done.

You would be aware of the Electricity Safety Regulations and
regulation 403 which requires any private electric line
that is going to be reconstructed to be put
underground?---Yes. There are some definitions around
number of poles, I think. Let's just take it as that.
Yes, I'm aware of the concept of that.

SP Ausnet in fact can go into a private property and if a pole
or a conductor in the opinion of SP Ausnet requires
reconstruction or replacement, it can be reported to ESV
and then there is a requirement for the private property
owner to pay for the undergrounding of that power
infrastructure?---I understand there is a regulation and a
requirement to do that.

Your experience surely would tell you that that is a regular
occurrence in the SP Ausnet area?---I'm not sure how
regular, but I know it happens from time to time.

The basis of requiring a private property owner, a farmer, for
example, to run his electricity from an SP Ausnet asset to
his house or his machinery shed or the like, the basis of
that is that it is in need of substantial reconstruction?---Yes.

The reason for the undergrounding for the private property owner is to reduce the risk of bushfire?---That's one of the reasons, yes.

But when it comes to, for example, SP Ausnet reconstructing a line, the same requirement is not put on SP Ausnet?---That requirement is not put on SP Ausnet.

But in a high or extreme bushfire risk area you could see good reason, surely, as to why the same requirement should be put on SP Ausnet that is put on the private person?---As I mentioned earlier, there has been submissions made where the business has thought that that would be a prudent and acceptable practice. Unfortunately, that was rejected.

COMMISSIONER PASCOE: Can we just get some specificity. By whom was it rejected?---The ESC, the Essential Services Commission.

MR RUSH: Can we bring up (WIT.5103.001.0089). What I'm referring to is a document entitled "AMS - Electricity distribution network, conductor". Is that a document with which you are familiar?---Yes, I have seen this document. I don't know it in detail, but I have seen it.

Firstly, if I can ask you, I think you have set it out in your statement, but at 0093 in the first paragraph it is put that SP Ausnet operates 41,000 kilometres of overhead distribution network, 600,000 customers, and it sets out that there are 31,000 kilometres of high voltage, of which 20 per cent is SWER, and approximately 10,000 kilometres of low voltage?---I can see that, yes.

So that 20 per cent, approximately, on those figures, 6,200 kilometres of the network is SWER lines?---Yes, I could
calculate that.

It would be fair to say, would it not, if we go on to 0093, second paragraph, it talks about "Current conductor failures due to deterioration average 47 per annum" and it sets out, "The primary issue facing SP Ausnet is the increasing age profile and deteriorating performance (2 per cent per annum) of steel and copper conductor through failure, primarily in the eastern network. Economic analysis of conductor failures indicates, for selected feeders, that it is prudent up to the end of 2015" for a replacement strategy of 1770 route kilometres of steel and 280 route kilometres of copper?—Yes.

That was something that was undertaken during your time in SP Ausnet?—I think the initial report was drafted whilst I was there. I think this report was produced following my departure in terms of ——

But what is noted there is the increasing age profile of the SP Ausnet infrastructure as far as conductors are concerned?—Increasing age profile, that's correct.

At 0099, in relation to conductor failure, below that graph and above figure 5 it is noted that, "The significant majority of failures also appear to be high voltage conductors which combine to present considerable risk to the business from a public safety and bushfire perspective." Then it sets out that it can be expected that there will be an increase, "a slow linear increase in the number of conductor failures of the order of 2 per cent per annum."

So that's something that is understood and recognised by SP Ausnet in relation to particularly its steel and copper conductors?—I'm not sure it is saying "will continue". I think it is saying "has". The data there is showing
What the statement says is that, "Analysis of failures indicates the rate of failure is demonstrating a slow linear increase in the order of 2 per cent per annum"?---Yes. I think the way I interpret that is the rate of failure "has demonstrated".

Has demonstrated?---Yes.

And if you go on, "in the number of conductor failures due to progressive deterioration in asset condition"?---Yes.

So that is something that can be anticipated will continue?---Unless something is done, yes.

Indeed, at SP Ausnet there was a recognition that, with the increasing age profile of its conductors, this failure rate could increase at an exponential rate, unless something was done?---If nothing is done, things will get older, yes.

So what was proposed to be done was to replace 1770 kilometres of steel and a much lesser amount of copper conductor?---That's my understanding.

Out of a network of 31,000 kilometres, route kilometres, of the high voltage network?---That's the way I read the report.

I suggest that it was recognised by SP Ausnet at this time that, in the absence of a planned conductor replacement, that the failure rates would continue at an exponential rate?---Is that written somewhere?

Is that your understanding?---It is not my understanding.

What is your understanding?---My understanding is that there is an asset management plan in place that, due to the asset age profile, the assets are becoming older across the whole of Australia, from Queensland, New South Wales, Victoria. This is not an SP Ausnet issue. If I refer to
the recent New South Wales electricity businesses, on average they spend somewhere in the 4 to $5 billion over five years. Over the next five years the regulator has approved $13 billion of spend because of replacing ageing and old infrastructure. Over the next few weeks the Victorian businesses will be lodging their price submissions, and my understanding in those price submissions is there will be significant, in the order of 40 to 60 per cent, increases in the required capital spend to replace ageing assets. So there is an asset management plan and strategy that goes out for 20 years and it looks at replacing aged assets on the basis of forecast condition. I think that's what this document is trying to say.

If we go to 0105, page 17, there are a number of figures there. I will come to those figures and graphs later, but if you look at the paragraph above figure 14, and this at least was printed in October 2008, it states, "Using the age profiles for steel and copper conductor indicated in figure 14 provides an indication that, in the absence of planned conductor replacement programs, failure rates may begin to increase at an exponential rate due to the increasing proportion of conductor fleet approaching current failure age ranges"?---Yes.

What sort of years are we looking at for a conductor to fall into a "failure age range"?---Sorry, I don't know the answer to that.

You can't tell the Commissioners the approximate age of a steel or copper conductor when it would be expected to fall into what is described in this document as a "current failure age range"?---No, it's not my area of expertise. I don't
know that level of detail. There is an engineering assets
group that does this. From what I can see from the
profile, there are conductors that have been inspected and
are in the age of 80 years for copper and that's because
they were put in 80 years ago. The steel conductors,
there are some out there that are, if I can read this
correctly, 60 to 70 years old that have been inspected and
found to be in suitable condition. So I would only be
speculating if I provided the Commission with that answer.

Do you from your perspective see any urgency in relation to
this position?---I see a need for an increase in the
replacement of ageing assets across the electricity
infrastructure.

If we have a look just very quickly at figure 14 and firstly
the steel conductor age profile. What is set out there,
is it not, are the years that steel conductors, and the
percentage in kilometres of steel conductors, the years
put in and the percentage in kilometres over which steel
conductors are used on the assets of SP Ausnet?---I can
see that.

Are we not seeing that the vast majority of the steel
conductors are in excess of 40 years of age?---Yes.

That, I suggest, is what is being referred to when we talk
about "current failure age range", that beyond 40 to
50 years you are starting to get into the age when you can
anticipate increases in the failure rate of
conductors?---I'm not sure of 40 to 50 years, but they are
becoming old assets.

If we go to the adjacent analysis of the copper conductors,
what we are seeing there again is an even older
infrastructure in relation to copper?---Yes.
If we can go to page 107 of this document and the conclusion in relation to conductors, this may assist you under the heading "Conclusion" at the bottom of the page: "Steel and copper conductors are demonstrating end of life characteristics." Is that familiar, something you are familiar with? You were the distribution manager, were you not?---Yes.

So this is in your area?---If I can be clear, my role and responsibility was to put the systems, the resources, the framework in place to deliver the asset management plans, so to make sure that it all happened, to operate, maintain and look after those networks. The actual engineering detail design group that wrote these documents sits under the network development division; I think I outlined that in my statement. So this document wasn't in my direct responsibility, but I was aware that this activity happens, just through experience.

You accept it as accurate?---I accept that that's, in my view, a fair comment.

Mr Adams, the conductor replacement program in connection with the 31,000 kilometres of high voltage conductors, as we have indicated in relation to copper, the total replacement that was identified for the replacement program 2007-2010 was 169.68 kilometres?---Okay.

To be spread over the years of that replacement program?---I can't ...

What's the situation with SP Ausnet's poles? Are you able to tell us about that?---The situation? Sorry, I'm not sure ---

With its wooden pole infrastructure?---I'm unsure of the question, I'm sorry.
Are you aware in 2009 that SP Ausnet, I suggest, appreciated that 169 kilometres of replacement of copper conductor was not adequate and identified a much larger estimate that had to be replaced of copper wires?---If there is a document, I'm happy to look at it.

If we can go to (SPN.012.004.0195). What we are looking at is another conductor study of SP Ausnet. You see there a repetition in the second paragraph of what's been said before, save for this: that it is still suggesting deterioration of performance at 2 per cent of steel and copper, primarily in the eastern network. "Economic analysis of conductor failures indicates, for selected feeders, that it is prudent up to the end of 2015" to undertake the replacement of 1770 route kilometres of steel and 280 of copper?---Yes.

And is that done on an economic analysis as to the amount of money that will be put into the replacement of infrastructure?---The key wording there for me is the word "prudent". We have an obligation to spend the customers' money wisely and the analysis would show that - the engineering analysis is based on the fact that a submission would be made to the economic regulator that would need to demonstrate that this replacement of this particular conductor was the best way to go, so the economic analysis is an engineering analysis supported by the costs that are required to replace that infrastructure.

COMMISSIONER PASCOE: Mr Adams, does that take account of the likely consequences of failure?---Yes, that's my understanding of the analysis, is to determine - from a reliability perspective there is a thing called a bathtub
curve you may have heard of. Normally when something is installed you have a lot of faults and then it tends to last for a significant period of time and then start to trend up. So, the engineering analysis is trying to detect these faults and this trend, forecast that forward over a period of time, and then try to have those replacement programs to manage all those from transformers to conductors. I think the basis here is that one needs to go to the next level of sophistication because if one had a car and on average cars last for 10 years, but some cars will last, if they are a taxi, for three, and some will last, if you know what you're looking at, you can say, "If I just replace this bit or do that" you can have your car last for 30 years. It is an obligation on the business to have that sophistication to do the condition monitoring and to make sure that these assets last as long as practicable within a range of risk tolerance. That's my understanding of how it works.

If we can go to the assets summary on this page at the bottom of the page, the copper conductor type, it is estimated that there are 2,237 kilometres of copper installed between the 1920s and 1960s; is that right?---Yes, I can read that.

For steel, GZ/ST is steel, is it not?---Galvanised steel, yes. There is 19,723 installed from the 1940s to current, yes. Much of the ageing steel conductors is contained on SWER lines?---Much of it, I'm not sure. I would have to check the numbers.

I suggest the SWER line infrastructure of SP Ausnet was installed predominantly in the 1950s but extended into the early 1960s?---That would be my - 50s to 70s; in there,
yes.

And it was appreciated at the time of installation that SWER conductors would interfere with telecommunications lines and phone lines?---Had the potential to, unless it was designed correctly.

And that was managed by the installation of the SWER network being placed at least 70 metres away from those lines?---From telecommunication lines?

Correct?---In some instances, yes. I think it is to do with the earthing.

For that reason, I suggest, the SWER lines run mostly cross country on easements or private properties?---They do, mostly in very sparsely populated areas.

One of the consequences of that is that, when there is a fire, the seat of the fire at ground level is more difficult to observe because the SWER system is normally located well away from the roadway?---I don't know if it is located normally well away from a roadway.

The identification, because SWER lines are on private property and easements normally, it makes identification of fire more difficult and the containment or the fighting of fire more difficult for those reasons?---I wouldn't say that, actually. If one has a three-phase network running through a heavily treed vegetated area, I think that would be a far harder fire to detect and to fight than it would be on an open plain where SWER lines tend to run.

Just finally on this, could I ask that we have (SPN.012.004.0138) brought up. You see this is the SP Ausnet replacement program and details matters which by agreement in relation to cost have been redacted from the document, but I want to go to 0171. If we look at that,
this is stage 1. Identified lines is referred to here. These appear to be lines that have been particularly identified in need of replacement. If we look just at a couple of them. For example, number 1, it is the Corinella line at Agars Road, Coronet Bay. It's noted, "The copper HV conductor annealed, reached the end of its serviceable life." Leongatha, "annealed, history of falling down". 3, Leongatha, "High voltage conductor annealed, history of falling down. Project been previously surveyed for reconductoring." And so it goes on?---Yes.

Demonstrating, I suggest, a history in relation to these lines that are surveyed of significant deterioration and problems with this network as far as it concerns copper conductors?---With those three lines, they look like they are ready to be replaced. I can't comment on the rest of the lines from that data.

If we go to the next page, and I'm picking these at random. If we go to 8, Leongatha, North Road spur, Fish Creek, "Steel high voltage conductor badly rusted, history of falling down". The next one, 9, Poowong West spur, Poowong, "Steel conductor badly rusted, history of falling down." And so it goes on. There is a problem, is there not, with the eastern network of SP Ausnet?---A particular problem?

In relation to rust because of climatic conditions in that area?---The eastern part of the network tends to be the part that has this type of work required more than from a northern part, from what I have read.

But this, as we will see, Mr Adams, if we go to page 0173, and we go to 21 at Myrtleford, the Everton spur in Beechworth township, "Poor current capacity, old, rotten, copper high
voltage cable". Over the page at 22, the Wandiligong line, "Poor current capacity, old, rotten, steel cable". Myrtleford again at 23, "Poor current capacity, old, rotten, high voltage cable". What do you say to that?---I'd say there have been inspections done and of the 20,000 kilometres of line, there are 169 kilometres of line that need to be replaced.

So they are the ones that were identified to be replaced; is that right?---That's the way I understood. That's the way I read the chart, and it sounds from the other report that there is another 1700 kilometres that's planned to be replaced as well, from that previous report.

Why would that be?---They would be inspected and found to be not in a suitable condition to be left up.

They are the problems that have been identified which explains, if not replaced, the ageing infrastructure conductor failure rate can be expected to increase by two per cent and perhaps exponentially?---If nothing is done about it, that would increase.

If those sort of lines were on a private property, they would be undergrounded?---If they were replaced, those lines - some of those lines would be undergrounded. The conductor would be replaced, yes.

Did SP Ausnet to your knowledge undertake a review in 2009 as to the adequacy of the five year inspection cycle for poles?---What year, sorry?

2009?---I don't know. I wasn't there.

Is there not a concern at SP Ausnet as to the number of poles in the fleet, as it is called, that are in need of replacement?---I can't speak for SP Ausnet, I'm sorry.

In your time at SP Ausnet which concluded late last year, was
there not such a concern?---I don't recall any special alarm about ageing of poles. I recall a general, as I mentioned earlier, around the age of the assets, the fact that there was a large electrification of the state done in the 1960s and 1970s and those assets do not have an indefinite life. What we have also found is that, as assets are approaching the end of their lives, that new engineering techniques come to be to sustain them further, such as pole staking. I'm not proposing today that there is a solution for conductors, but there may be some technique where they can be - sorry, I'm speculating here - but they could be sprayed with zinc coating or something so they don't rust any further, I'm not sure. But the objective is not to just replace assets because they are old. It is to replace them because they are no longer serviceable.

Was there not a concern as to the high number of poles in the network that needed staking?---Not that I'm aware of. Can we have a look at (WIT.5103.001.0968). If we can go down the page, you see this is a letter to Mr Gardner of ESV which concerns the bushfire mitigation audit of 2008/2009?---(Witness nods.) At a time when you were employed at SP Ausnet?---This letter is dated 19 December when I wasn't employed, but I was employed up to the November of 2008, yes. So you would have had a significant input, would you not, into this document?---Not personally, no. Could we go to 0971. If we look at item 6 there, this is the ESV report, "As mentioned in previous audits the auditors have been of the opinion that the high numbers of pole staking in SP Ausnet (Distribution)'s network" - of which
you were in charge - "would sometime in the future create a wave of pole replacement. The number of existing staked poles that are now being temporarily supported until replacement indicates that this wave has now commenced."
Weren't you aware of that?---That is an opinion of the auditors. Could I just see what the headings are, please, on the table? "SP Ausnet proposed action/comment". Thank you.

So that's the independent audit of SP Ausnet?---That's the audit, yes.

If we go back, what was the comment?---"A review of the number of staked poles that have changed status to unserviceable and actioned for replacement indicates that there has been no significant increase in these numbers over the last five years."

So was that your view?---That wasn't my view. I'm not saying I had a different view.

You see, there are figures, and I will take you to them, at (SPN.010.001.0071 ). What it is, Mr Adams, is the electricity distribution five-year asset management plan 2006-2010. At 0105, this is stated under "Maintenance strategy", "On average there are 57,000 poles." It is 0105, just above "Replacement and repairs". "Poles nearing the end of their lives are moved to a limited life status then monitored on an increased frequency of 2.5 years before becoming unserviceable. Poles designated as unserviceable are assessed against a criteria in the line inspection manual as to whether they are either staked or replaced. On average there are 57,000 poles inspected per annum, with 1,300 downgraded to limited life and in 2004, 1,360 downgraded to unserviceable. The rate
of poles downgraded is trending up with two species - messmate and white stringybark showing the greatest deterioration." If you go down to "Defective poles", it notes those replaced trending up from 600 to 1,360 and those staked trending up from 700 to 1,800. That is what ESV are referring to, I suggest?---It could well be.

Are you able to give us any indication in relation to the deterioration of pole infrastructure what the SP Ausnet position is in relation to replacement?---I can't speak at the moment for SP Ausnet, but I could say that there is nothing in there that surprises me. Just for clarity, a pole traditionally is put in the ground. What normally happens due to the soil and the moisture mix is that the pole will deteriorate just below the surface level in that area. There are inspections done to detect the amount of sound wood and techniques have been developed called pole staking where a large steel beam is placed next to the pole driven into the ground and secures the pole. The tests are done to see how much sound wood there is. If the deterioration of a pole is only within a certain area just below the surface, then a pin is placed further up the pole and the stake is driven into the ground and that will mean that that asset can then last for another 15 to 20 years. These have been put in over the last 15 to 20 years and therefore those staked poles will be reaching the end of the life as the rot from the inside of the pole - it tends to rot from the inside, it comes up to the point where the stake is no longer serviceable, that would then be defective and that pole would be replaced.

Whether they are a staked pole or a normal pole, they have a designed strength, and if they are appropriate for use
they will continue to be used.

What I suggest is at least this: that the five year inspection cycle should be reconsidered having regard to the statements contained in these SP Ausnet documents and perhaps be considered to come back to 2.5 or the three years that it was?---I'm not sure how you draw that conclusion.

If we just have a look at another document about poles, which is at (DOC.ESV.003.0165). Perhaps we will leave the one that's up and I will come back to the one I have asked for. Do you see this is a briefing note of a TXU follow-up field audit of 11 March 2005? If we go to the overall finding: "Overall the view in the initial audit report that the wooden assets in certain areas of TXU's network were approaching the end of their life was confirmed. The results of this audit would also suggest with current deterioration of poles as measured by TXU and their approach to deferring the replacement/repair of assets, the current default inspection frequency of five years is too long." That's what I'm getting at. You would agree, surely, on what we have just seen in the last 20 minutes?---The last 20 minutes - I'm reading this here and that's the first time in my discussions with the Office of the Chief Electrical Inspector that I have heard them mention that the five years is too long. Although I wasn't involved in the inspection cycle change, I've had a number of meetings with the Office of Chief Electrical Inspector over the years and I haven't had it put to me that a five year inspection cycle is too long.

But, you see, whether it has been put to you or not, I suggest that what is set out there is a fair conclusion, having
regard just to the detail that we have been to in relation to the state of poles and the deterioration of poles, this morning?---As I understand it, I'm just trying to see the logic here, there is a five year inspection done. If the pole is believed to last more than five years, then the inspection is done five years hence. If it is not believed that the pole will last more than two and a half years, there is an inspection done in two and a half years time. At that point in time the pole is declared whether it is unserviceable or it will last another period. So I'm trying to see the challenge here.

Let's have a look and see if this will assist you, at (DOC.ESV.003.0165). This is the SP Ausnet distribution BM audit report for 2005?---Okay.

Just one matter out of it at 0172, in the second paragraph, "The field audit demonstrated that there may be an issue with pole top attachments lasting the full five-year inspection cycle, as five of the 11 items found defective were inspected during the past two years. This would suggest to the auditor that there may be a requirement to carry out a mid-cycle visual asset patrol. This would need to be in addition to the vegetation patrols"?---Yes.

That's another issue, is it not, in relation to this infrastructure, is the pole tops and the insulators?---Another issue?

The failure of pole tops, but particularly the failure of what are called the pin top insulators?---There are a number of assets and insulators, pin top insulators. There are failures of assets over time, yes.

But the pin top insulator has been identified, I suggest, by SP Ausnet as being obsolete, outdated and having a particular
failure rate?---I can't comment on that detail.
If we go to (SPN.006.001.0286). What we are looking at there,
I suggest, Mr Adams, is what is referred to as the pin top
insulator?---That looks familiar.
What do you think about the state of that?---It looks rusty to
me.
Anything else? What about the tie wire?---The tie wire is
rusted as well.
So what would you anticipate in relation to
inspection?---Anticipate in terms of?
What an inspector of that asset would make of what is shown in
the photograph?---I'm not sure what an inspector would
make of that. I don't know. I haven't been an inspector.
So you have no idea whether that's satisfactory or
unsatisfactory?---It looks to me to be nearing the end of
its life, but it's not my area of expertise.
Surely then, as the manager of distribution, this doesn't come
under your domain?---Not the inspection of this pole top
and not that work. My role is to make sure I have the
systems and processes and people that have this skill to
do this. I haven't done this. In my years working there
I haven't done this.
So, despite you having the management responsibility for the
people who do this, you have no idea whether what is
represented there is good, bad, should be taken off and
replaced?---I would rely on the experts that I have to
advise me on whether that one would last or not.
Otherwise I'm just making a comment.
What did the experts advise you in relation to that type of
pole top structure?---I don't know. I would have to refer
to the documents.
Can we have a look at (SPN.012.013.0001). What we have here is an SP Ausnet document of AMS electricity distribution network, concerning insulators, line, medium voltage; is that correct?—That's what it says.

If we go to the executive summary at 0004, in the third paragraph, "Analysis of insulator failures has identified pin type fog insulators as the predominant source of failures with route cause analysis identifying electrical and mechanical failure as the causes that result in incidents including pole fires, conductor drops, high voltage injections and potential bushfire risk. The pin type insulator, first introduced in the 1930s, has been obsolete since the late 1970s, early 1980s, when it was replaced by post form insulators. Replacement of the pin type insulator cohort is estimated to cost [blank] or 350 per cent of the current total annual asset replacement budget." Commissioners, the figure I read was redacted. I was reading off a copy. I would ask for a suppression order in relation to that figure.

CHAIRMAN: Yes.

MR RUSH: I was reading off a copy and not looking at the screen. Sorry.

WITNESS: Fog top insulators, I'm aware of fog top insulators and a bit of effort to replace those types of insulators.

MR RUSH: If we go to 0007, we see down the page under the asset profile, the light blue colour represents, does it not, the pin type insulators on 22 kV lines?—That's how I read that, yes.

So the significant majority of pin type insulators are between 30 and 60 years old?—That seems to correlate because they were installed back in the 1930s and 1940s.
If we go to 0009, under "General", "Of approximately 960,000 individual medium volt line insulators on the distribution network ... 51 failures per annum or 0.005 per cent failure rate for the MV fleet. Further analysis of these failures indicates pin fog type represent 20 per cent of the fleet as the primary source of failures. For the six-year period, 2002-2007, an upward trend in failure as indicated in figure 5" - which is set out immediately below - "has been observed indicating an approximate 5 per cent deterioration in performance per annum which is expected to continue as a function of the increasing age profile of the obsolete pin fog type insulator fleet." In other words, it is anticipated by SP Ausnet that the fog type insulator has increased at 5 per cent per annum and with age I suggest we could consider such deterioration to become exponential unless replaced?---Unless something is done, that failure looks like something needs to be done. I think that's what the plan is trying to say.

Putting aside the poles, inspection of this type of insulator, having regard to its age and considerations of failure, would also suggest a review of the five year inspection rate back to perhaps what it was or even less, three years or 2.5 years, would it not?---I can't see the link there. I can see a link that there are a lot of long life assets that are deteriorating and that need to be replaced and I can see that there is an asset management plan that is saying that they need to be replaced and work towards it. We've got ageing conductors, steel and copper?---Yes. We've got poles as identified through ESV and the like with increasing staking and deterioration and at least a very substantial number of these pin type conductors through...
the network, not only on SWER lines, but on other lines, all ageing infrastructure, all indicating an increasing rate of failure. I suggest those three things would very much point to a need to review the time span over which inspection takes place?---My view is that there are people that review these things on at least an annual basis as to what is appropriate and which assets need to be reviewed at which frequency. Over time it may be shortened or it may be extended.

At paragraph 49 of your statement, Mr Adams —

COMMISSIONER McLEOD: Could I just go back to that, Mr Rush.

I take it that an insulator failure of this type potentially carries a fire risk?---It could do, yes, depending on the location and the line voltage et cetera, yes.

But it is a failure that is a serious failure in that it could cause the conductor to be either detached or repositioned in a way that could create an electrical fault that could in the right circumstances cause a fire?---That's correct, Commissioner.

Given that trend, which is fairly continuous over a five-year period, does that say anything about the validity of a five year inspection period for assets of this age?---I don't see a direct correlation between those and the inspection. If the inspection is done and they have assessed and said that that asset will last for another five years, if they don't believe it will last for another five years, then it is replaced. These assets have been up for a significant amount of time.

Sure. But within that five-year period, which was the span of that failure history, there was a progressive increase of
quite a significant amount overall in the number of failures on a year-by-year basis?---Yes.

So there was a clear trend that was not of a minor order; it appeared to be of a fairly significant continuing order. Now, if the purpose of the annual inspections at either three years or five years is to identify these sorts of failures potentially before they occur, if the progressive deterioration in their condition is consistent with that trend line, clearly there is a greater risk of failure and potentially a greater risk of damage being resultant from that in terms of a five year inspection cycle as against a three year inspection cycle, which would clearly pick up failures more quickly, potential failures more quickly?---Yes.

And it is clearly a vulnerable asset when it gets to that condition?---Yes, that's right.

So that does, it seems to me, have some implications for the periodicity of your inspection program for aged assets?---Yes.

MR RUSH: Mr Adams, at paragraph 49 of your statement, which is on the screen, you say that, "In 2007/2008 fire season SP Ausnet distribution network assets were associated with 47 fire starts." Do you say that the 2007/2008 figures are representative of fire starts caused by SP Ausnet assets?---Representative? The fire season - the assets over the period of the last 15 years, there is a measure we use which is the percentage of reported wildfires compared to the percentage of fires associated with the assets. The objective of the business is to continually decrease the amount of fires associated with the assets. I think 15 years ago it was up around 3 per cent, and in
the last period, this '07/8, it was down at around
1 per cent, 1.1 I think, from memory. So I think that,
although it represents that period, but the objective is
and the actuals support that objective of driving that
percentage of fires to the percentage associated with
assets down each year.

I know you talk about the percentages in your statement, but
you have picked 2007/2008?---Yes.

And indicated in paragraph 49 that there were 47 fire starts.
But the position is that there are normally more fire
starts than that per year, isn't it?---That number doesn't
look outside what is my recollection of number of fire
starts per year. I wouldn't expect to see 100 in one year
and 20 in the next year. From my memory it's been around
50. In earlier years it was more.

If we could go to (SPN.010.001.0124).

COMMISSIONER PASCOE: While that's coming up, Mr Adams, I'm
just interested to know are there incentives in the
contracts for reducing the number of fire starts in any
fire season or indeed penalties if they are not reduced or
increased?---Not to my knowledge, I'm sorry. I don't
believe there are, but I can't confirm that.

MR RUSH: I think it is just below this graph. Do you see
there, and what I'm reading from is the five year
assessment plan, 2006-2010, and it is says there, "Over
the past 10 years, SP Ausnet has experienced an average of
90 fires per year." The primary causal events it sets out
are in relation to the cause of fires associated with SP
Ausnet assets. "Insulator failure/pole fire - electrical
and mechanical (63 per cent)" and so on. That is setting
out there an average of 90 fires per year?---Okay.
The year after the one that you have referred to, you didn't refer to 2008/2009, but I suggest in that year, 2008/2009, we are up to I think 72 or 75 fires. Could be?—Could be. I'd have to go on the data. I'm just trying to rationalise in my mind, because my understanding is that within the years from about 1997 to now the CFA within the SP Ausnet area has something like 5,000 wildfires that are started a year, and of those fires we have traditionally been around the 1 to 2 per cent but trending down. So just in calculating in my mind I'm in the order of magnitude of 80 to 50. So, if it is 72, 90, 50, 48, that sort of reconciles. Sorry, I was just doing that out aloud so people didn't think I was sitting here.

COMMISSIONER McLEOD: What do we draw from that, Mr Adams?—I was just trying to—Mr Rush was asking about how many fires are associated each year, does 50 look like the right number or does 90 or 70, and I was just trying to do out loud for the benefit of the Commission that, of the approximately 5,000 fires on average from 1997 to then, that around 1 to 2 per cent, according to my memory, are associated with the assets, which would put it in the range of that 70, 50 fire starts per year. So I'm just probably trying to reconcile back and say to Mr Rush that number makes sense to me.

MR RUSH: Just one matter on this. At paragraph 41 of your statement at 0019, I will read it, you say, "In the 15 year period before February 2009 there was not one SWER conductor break that led to a fire start from SP Ausnet's distribution network." What do you mean by "conductor break"?—There are a number of ways that conductors can fail. Conductors can fail—by definition they can fail—by definition they can fail.
by the pins, the ties falling, they can fail by joints breaking or they can fail by the conductor breaking. In those years the analysis showed that in that 15 year period that are robust records that there was no fire starts from a SWER line conductor break. This data is used by the engineering group then to assess the level of risk and which type of assets should be replaced before which other type of assets in their asset management planning.

Could we have a look at (DOC.ESV.004.0001). If we can go down under "Details of person receiving communication", you will see it is Mr Van Der Zyden of 8 February 2008 at what was described as the property of Mr West, "11 kV SWER line came down, four cows killed and a two acre grass fire. SP Ausnet crews on site." Is that a conductor break?---My understanding was, and I will have to check, that there was a tree that came down across the line that was associated with that conductor down.

I think your understanding might not be what the records say. If we go to (DOC.ESV.004.0003). If we can go down the page a little bit, you will see we are talking about the same incident, 8 February, and underneath that, "Wire down reported by CFA at Murchison". If we go to "Dispatched crew to attend. Called to say they were going to attend. Shed of old brown insulator broke off and came within 800 millimetre of ground beside pole." So it is an insulator problem, is it not?---That's what that says, yes.

What I'm saying is you didn't or you don't include - when you talk about conductor break, you are not including this sort of incident?---Not including an insulator breaking.
In the reporting there are a number of categories as to 
- - -
I know. My question is quite direct. When you refer to 
conductor break, you are not referring to an insulator 
break?---Yes, or an animal on the line or other things. 
So that figure has the potential to be quite misleading in 
relation to fires that may be caused as a consequence of 
an infrastructure problem on a SWER line?---I thought the 
comment was quite specific. We talked about conductor 
breaks. I wasn't trying to impute anything else. 
Can I ask you about auto reclosers. Before going to that, it 
is SP Ausnet that do their own figures in relation to fire 
starts. The figures here are internal to SP Ausnet; 
correct?---The figures in? 
How are they put together?---My understanding is the figures 
are collected in conjunction with the CFA. 
Perhaps it is worth going to this for your comment, at 
(DOC.ESV.001.0192). This is a bushfire mitigation 
management plan evaluation done by Energy Safe Victoria of 
the plans submitted for 2006. At 0192, if we go down the 
page a little, do you see next to "BM strategy plan", this 
comment on the audit: "The 1.1 per cent rated assessment 
of performance for '05/06 season claims to be based upon a 
total of 55 fire starts for the region of which 30 were 
associated with SP Ausnet assets. These figures seem to 
be grossly underestimated." Are you aware of criticisms of 
SP Ausnet figures?---I wasn't aware of that, no. 
Does anyone audit those figures?---There are audits done of the 
bushfire mitigation system and processes. There are 
audits done of the systems that collect the data and there 
is quite a lot of checking of figures. So I can't say for
that exact figure, but I'm fairly confident.

Very quickly, I want to deal with auto reclosers which is referred to in the bushfire mitigation plan '08/09 at (WIT.5103.001.0112). Are you aware of the SP Ausnet policy in relation to what is done with auto reclosers on days of total fire ban?---I'm aware of - I have some understanding of it, yes.

What happens?---My understanding of it is there are a number of feeders that are in what are considered to be very high risk areas where the auto reclosers are suppressed and for other reclosers they are either left on for matters of the balance between providing supply to those townships, because they might have sewerage pumping systems or water or comms, and the balance between the fire risk. If appropriate, decisions are made between the control room, the field workforce and the engineering strategy group to decide whether they should be suppressed or not on the day.

The effect of the suppression of the auto reclose function is what?---It means that there will be in a sense one trip. If there is one fault on the line, the line is then disenergised and then as a normal protocol the line is patrolled before the energy is re-energised to the line.

Has that been in your opinion a successful inclusion into the bushfire risk management strategy?---I think the suppression on those days is - it's always - I think there are two questions there in my mind. One is I think it is an important inclusion in the bushfire mit strategy. The second one, I think the balance between the supply of electricity and the suppression is always a very difficult discussion.
If we go to 0146. At the bottom of the page under "Auto reclose suppression" the policy is there set out. It is the manager of network operations?---Yes, which is the head of the control room in the operations there.

"Ensure the auto reclose is suppressed on designated feeders."

How are those feeders picked?---My understanding is the risk of those areas that are in high bushfire risk areas, I think there's a table; I can't recall.

I think you're right, it is over the page. Then if weather conditions abate you can restore the auto reclose suppression, but that will happen once the fire danger index falls below 30; is that correct?---Yes.

Over the page the areas of feeder suppression are there set out and there are regarded as the high risk bushfire areas?---Some analysis has been done.

I just want to take you to the paragraph underneath that.

"POELs", that's poles, is it not?---No, it's not a misspelling. It's privately owned electric lines.

"With urgent defects shall, where practical, be disconnected" on a TFB?---Yes.

And if the total fire ban commences at midnight, arrangements are made?---Yes.

So what would the reason be for the disconnection of a privately owned electrical line?---Urgent defects - what sometimes happens is we are talking about private electric lines that are not owned by the distribution company and are owned by the resident. In some cases we go and inspect those lines for the private owner and find that we don't believe that they are in a suitable condition and issue the customer with a notice to say, "Within the next two years or whatever you should replace that pole."
sometimes have customers in a sense that say, "No, I think
the pole is going to last longer," and therefore we take a
duty of care that these are assets, whether they are poles
or insulators or whatever, that we believe need to be
repaired and are outside our, what we would call
acceptable design parameters. So on those days we tell
those customers that, if they want to retain supply, they
need to fix those lines and, if they don't, on total
bushfire ban days we disconnect them from supply because
they are outside of acceptable tolerance.

What is the nature of the problem with the private poles that
would cause disconnection?---They could be poles that need
replacement, in our view, within three months, so they
might not have enough sound wood or they might have a
cross-arm that's cracked and about to fall.

Mr Adams, there has been some evidence of SP Ausnet using or
changing or instituting different ways of pole inspection
and conductor inspection by the use of helicopters or
unmanned aerial vehicles. Are you familiar with
that?---I'm familiar. I'm aware that it's been introduced
over the past couple of years.

What can you tell us about it?---One of the challenges with
inspections is the assets have a uni-directional view, so
you are looking from the ground up. Particularly for
cross-arm failure, the cross-arm being the beam at the top
of the pole, moss and mildew and deterioration tends to
happen at the top of the cross-arm, which is not very easy
to detect from the ground. Therefore, if something is
detected in an inspection, you either go there with an
elevated platform vehicle, which is a cherry-picker, have
a look at the top, or if you are able to fly a helicopter
or some type of device over with a high resolution camera
and get another view of the asset, so have a better
quality inspection, and the objective of the business is
to continually improve and to try these things out.

Are you familiar with the results of that form of
inspection?---I haven't seen any results, but I have heard
that they have been successful. I can just say that - no,
I can't. I would only be speculating because I haven't
seen the results.

So are you able to tell us how the use of aerial surveillance
of poles fits in with the cyclic inspection of
assets?---I'm not sure what the cycling is between those
two.

Or where it's been done or why it's been done in any particular
area?---No, it is only a view. I can't - all I can say is
there are a number of initiatives that are constantly
being pursued to improve the level of inspection. I know
on the Jemena assets we use a telescopic pole with a
camera on that and when I asked in our business they said,
"Oh, we borrowed that technology from the Ausnet," in a
sense, so the guy can put a pole up, an insulated pole
with a camera to have a look at the top, so these are
things that are coming out over the next period.

Has that in the Jemena experience been a valuable or an
additional -- ??---Yes, that's been something the guys
have said, "Hey, this looks like it might bear fruit." We
have tried a few other things with I think light
aeroplanes and from my understanding they weren't as
successful, that the quality and the resolution wasn't up
to providing the data. It was only in specific instances.

It has been the SP Ausnet policy, I suggest, since October 2002
to fit spreaders on all open wire low voltage spans in
hazardous bushfire risk areas?---That's familiar, yes.
And spreaders have about a 20 year life cycle?---They may have,
yes.
But that has been successful, has it not, in reducing clashing
of conductors?---That's my understanding, yes.
It is also the SP Ausnet policy as of this year to fit dampers
for the purposes of the reduction of aeolian vibration to
conductors in high bushfire risk areas?---It may be.
You don't know about that?---I know what aeolian vibration is
and I know what dampers are, but I'm not sure if Ausnet
put them in this year.
Perhaps I understated it. If we can go to (SPN.012.004.0126),
which is a page from the steel conductor condition
assessment manual, and the audit of June 2009. If we go
to 0126, what we see there is a photograph of a conductor
with a damper on it?---Yes.
It is a very simple device, is it not?---Yes.
Underneath we see "Dampers should be fitted to all conductors
with spans greater than 300 metres"?---Right.
Is that your understanding of the current policy of SP
Ausnet?---I don't know that detail, but from that, yes,
that's the SP Ausnet policy.
Perhaps if we could go back to 0124 and figure 21. Are you
familiar with that sort of equipment?---Yes.
The photograph here, is that the sort of definition that can be
taken by a pole top camera?---My guess is yes. The photos
I have seen look similar to that.
Would you expect just one photograph of that sort of structure
or a multiple, from both sides?---I have seen a number of
them, Mr Rush. I have seen the video footage where they
take a number of stills around. I have seen individual shots. So, as presented to me, the team that were introducing this were trying to show me the capabilities, what it could do, the types of photos, as distinct from a particular - that's how I came across it.

Would you anticipate photographs from pole top cameras would pick up if the helical termination is not sitting properly in the thimble?---That specific; I say you would be able to get some pretty good photographs.

I take it, Mr Adams, you can't tell us why dampers have not been fitted on the Pentadeen spur line?---No.

Is it your understanding that the fitting of dampers includes a retrofit of dampers to conductors in excess of 300 metres?---I'm unaware.

Finally, Mr Adams, do you have anything to do with the education of line inspectors?---Me personally, no.

Did you have anything to do at SP Ausnet with the courses that line inspectors would take for your distribution responsibility?---We would have in my role to make sure that people that worked on the network were adequately skilled and resourced to do the job, so that would come under my role.

If line inspectors were given materials during the course of their four, five-, six-day classroom education to the effect for conductors "because conductors can deteriorate over the whole span it is not practicable for your work to pick up much in the way of general deterioration", if they were given that sort of material, I take it you would be extremely disappointed?---That doesn't sound to me like what you would expect from an inspector.

Particularly when the evidence as disclosed this morning
indicates, as far as a significant proportion of the SP Ausnet infrastructure is concerned, conductors are ageing assets?---Yes.

They are the matters, Commissioners.

COMMISSIONER PASCOE: Mr Adams, I would just like you to give us an opinion, given I'm minded of your seniority and your experience in the industry. I would be interested in your view on the likelihood of customers tolerating or welcoming suppression of their ACRs on severe high-risk days and the potential interruption to service vis-a-vis the undergrounding of cabling and then the likely increase in cost?---Yes.

I would be interested in your view on that?---Opinion. In my experience, the decision between putting the customer on a one trip lose supply and also lose it for a considerable amount of time, particularly in some rural areas, has been debated a number of times and I have been involved in some. With a bushfire mitigation hat on it is an easy decision you do that. With a customer and ramifications, you make the other call. In relation to the cost of undergrounding the network, that would be considerably higher. I think in order of priorities in the data I have seen on undergrounding, I haven't seen a report yet that demonstrates blanket undergrounding, but I have seen some reports where it shows in specific instances where undergrounding would be appropriate and would be the most effective solution. I'm trying to join the two together now. I would see that suppression of lines would be the simpler effect. It is a matter of then going to the next level, working out the specific implications for that particular line for that particular area. Over the years,
if I can put a bit more context, Commissioner, there were a number of firefighting stations and others that used to use electricity for that. As these lines tripped out and stayed out I think the actual firefighting mechanisms have become more sophisticated with electricity back-ups and all of those. So I think that over this period of time and maybe with some of the outworkings of this Commission that, working in concert with what happens in a bushfire and how the communities are supported, then that may well lead to being able to do some more work on suppression, so the balance would actually favour that way.

So a sense that a customer might be prepared to tolerate inconvenience on a very high-risk day?---Yes.

Vis-a-vis the likelihood or the potential of extra cost?---Yes, I think so.

It may depend on how many severe incidents there are?---Yes. It is one, in my experience, you can't do on a survey because you ask people and say, "Would you have it," and they'll go, "Oh, yes," but then you go and turn their power off and you find most people have a totally different view of how indispensable it is.

You focused on the use of the word "prudent" when you were looking at the replacement of conductors?---Yes.

You followed up by saying that there is an obligation on the company to spend the customers' money wisely?---Yes.

Obviously and properly there is an obligation on a company as well to generate a profit?---Yes.

What kind of pressure or trade-offs does that lead for you as a managing director when you are trying to keep the balance?---One of the key obligations is - you have obligations to your shareholder and the network. But the
important thing for me in dealing with the shareholders is for them to understand the regulatory regime and to understand what they have invested in and what their returns are associated with. In the sense of my time at Ausnet and also in relation to Jemena, we have tended to spend within the sort of 5 per cent range of what has been allowed in our regulatory submissions. So the regulatory submissions really become the underpinning of the funding for the business. I think we are actually a little overspent on the network, and I go to my shareholders. Now, just if I may talk about that economic driver, which is a key point. The way the regime works is that if you do have to spend an extra few million dollars to do some work you obviously have the time value of money which is a cost to your shareholder, but in the next rate reset if that is a prudent and, by definition, a prudent spend, that that can be rolled into your regulated asset base which forms the value going forward. So there is a motivator there to be efficient and effective. On the other hand, if it is demonstrated that you are replacing assets that don't need to be replaced, the regulator has a right not to pay you; in other words, to say, "Sorry, that was inefficient spend and I'm not going to fund that activity." So that's why I emphasise that word "prudent". COMMISSIONER McLEOD: Are you aware whether that situation has ever arisen?---I don't know the exact specifics, but I think one of my New South Wales colleagues had some of their funding for a construction that they built that the regulator thought was overdone and disallowed that design. But from your comment it would seem to be a fairly unusual event?---We put a lot of effort into our business plans
and our business cases so that when they come up to me for
signature I say, "Is this prudent? Is this the least cost
technically efficient," because that's what my customer -
in a sense the regulator represents the surrogate customer
- that's what they are demanding and I need to be able to
sign that off, otherwise I don't have agreement.

If it is well documented and justified there is perhaps a low
risk -- -?---Yes.

That the regulator wouldn't be satisfied?---That's right.

<CROSS-EXAMINED BY MR RICHTER:

My name is Richter and I represent some of the victims of the
Kilmore-Kinglake fire. Can I ask you this: you were put
forward by SP Ausnet to present what's effectively a huge
statement with a lot of annexures to tell us how good they
are at various systems, paper systems at any rate; is that
right?---They asked me if I would mind being a witness to
the Royal Commission to assist, and I think it was around
the systems that support the Kilmore incident.

Why didn't you say to them, "Look, I used to be general manager
of service groups but I'm not anymore. Why don't you get
the general manager of SP Ausnet group to make the
statement and tell us about things that he or she knows
about what the situation is now?" Why didn't you say that
to them?

MR STANLEY: If the Commission pleases, I desire to say
something about this line of questioning. The position,
I'm instructed, is this. That on 30 June this year the
solicitors for SP Ausnet met with counsel assisting the
Commission and discussion was had concerning what sort of
evidence would be and should be led through SP Ausnet.
Mr Adams's statement was prepared in a form in which it is
tendered and it was forwarded to the Commission, to the
counsel assisting the Commission, lawyers for the
Commission on 28 August. The letter that accompanied the
submissions indicated and stated, "As previously
indicated, if you consider there are additional topics of
interest which Mr Adams can address and which would assist
the Commission, please do not hesitate to contact us." No
further request for further information has been sought.
The situation therefore is that Mr Adams is deemed to be
the appropriate person to give the evidence and no further
request for any further information has been sought.

MR RICHTER: I wonder, Your Honour, if counsel for the
Commission and the Commissioners were made aware that this
witness is unable to tell this Commission of things that
are of vital importance to this Commission. He has no
idea, for example, about fatigue age range. We need to
ask engineering, it seems. There is no-one here from
engineering. I am just wondering whether when the
statement was accepted it was accepted with the knowledge
that this man would not be able to tell this Commission
what is being done now and how we prevent this fire
happening again.

CHAIRMAN: I'm not going to spend time going into that matter.
I am prepared to have you continue to ask the question
that you put in the first place.

MR RICHTER: Thank you. Mr Adams, are you able to tell us from
your position — you are an engineer by training?—Yes.
Are you able to tell us anything about failure age ranges and
how they might be applicable to an examination of the
Pentadeen spur line that broke?—I'm happy to try to
answer the questions.
Are you able to tell us whether, first of all, the spur line, the Pentadeen spur line, was assessed in order to place it within a failure age range?---No, sorry.

Are you able to tell us what factors are taken into account in assessing a particular line or any particular line in order to place it in the context of a failure age range?---No.

Are you able to tell us whether there is anything other than the actual age of the installation which is taken into account, the age and anything else taken into account, in placing a piece of equipment into a failure age range?---No.

For example, are you aware of the span of the Pentadeen spur conductor that failed?---I have been made aware of the length of that conductor, yes.

You are aware that it is of unusual length, are you not?---It is a long conductor, yes.

Would you answer this: it is unusual length within the system, is it not?---I think from memory there are 16 spans or something out of many hundreds of thousands. So if by that definition, yes.

It makes it extremely unusual just for that. You are aware of course that it was in a high-risk bushfire area?---Yes.

You are aware that it was thin steel as a conductor?---Galvanised steel, yes.

Have you been made aware of the age of the conductor, that is it is 43 years old or thereabouts?---I have been made aware of that, yes.

Did anyone make you aware that it is near the end of its life?---No.

Were you aware that the way it was situated was in a roughly
east-west direction when the prevailing winds were roughly north-south?---I wasn't made aware of the winds, no.

Were you aware of how the line was tensioned?---Not that specific line, no.

But the tensile load on a particular line would be of significance?---The tensile load would need to be taken into account in the design, yes.

You were aware of course that there was no vibration damper fitted?---Yes.

To an ageing line?---To that asset, yes.

Of unusual features, some of which I have given to you; yes?

An ageing line with unusual features?---Sorry, I thought I answered. Yes.

As far as you are aware, is it the situation that when assessing the age fitness of a conductor it is really a question of one size fits all? In other words, it doesn't matter what are the particular peculiarities of the line; the assessment, whatever it is in terms of giving it some failure age range, is independent of those specific features?---That's my understanding.

So you can have a line which is particularly susceptible, at least theoretically and certainly practically, to failure, it receives the same treatment as a span in the metropolitan area which will go for 200 metres between poles in terms of assessing age fitness; is that right?---That's correct.

Of course you have told us about the aeolian vibration feature?---Yes.

You are aware that it is and has been for many, many years a known hazard?---Yes.

You are aware that it can and does from time to time lead to
ruptures of conductors?---Yes.

So far as that is concerned, are you aware of any measures taken by the engineering group or anyone else to protect a particularly susceptible line from failure through aeolian vibration?---Yes, I'm aware of conductors up in the snow fields. I recall doing some work there for ice loadings. There were some vibration dampers placed on those. Actually I think they were the transmission assets that the Ausnet business also manages.

But, for something that was seen as posing a particular problem with loads, vibration dampers were fitted?---With ice loads in those instances, yes.

Well, is there any difference between ice loads and wind loads in terms of actual loading problems? A load is a load?---Well, there are different - again, I did qualify as an engineer. I haven't been practising as an engineer for a long time. But I'm not sure if I add value by entering into that. I will ask the Commissioners: if you want me to help, I will try and just say that my understanding is once the lines are loaded with ice or loads they change their resonant frequency. So the resonant frequency of a line will change depending on the mass, the pendulum mass. Therefore, if the line is designed to a certain standard, it is designed to try and minimise that vibration that could cause fatigue and damage. When it is ice loaded or wind loaded, then you need to put additional harmonic dampers to take those harmonics out of the line to reduce that damping, and that is the difference, in my view, between the ice loading on the lines and the loading on a normal line that doesn't have different weight-bearing loads put on it.
Now, the one thing that was known at Ausnet when you were there, SP Ausnet, was that there was an increasing deterioration in conductors at a certain rate?---Yes.

The replacement program that was instituted, we talked about proposed replacement of 1,770 kilometres of steel wire. Was the criteria for selecting those based on any peculiarities of the spans other than the fact that they had failed a lot?---I can't say whether the span was taken into account.

Not just the span, all the features of the particular span?---I didn't do the report and I would only be going on what I read. From my review of the report, it was due to a whole range of features. But what they were trying to assess is which lines would be the ones that are nearing the end of their life through all the data they had.

Do I understand this correctly: there is no replacement program that says, "Don't wait until the line falls down. In particular places, if there is a line with great peculiarities like its length, the environment, all the other conditions that play into the aeolian vibration issue, don't wait until it falls. Extend its life first of all by fitting dampers and then replace it when it is at the earlier of its failure mode range"? In other words, "Don't wait until the end of life, as in death, like it has fallen down, but replace it before the end of life if it has particular characteristics of danger associated with it"?---I think if I could repeat back the question? Please?---Are factors taken into account to predict the age of life as when conductors should be replaced such as the length of the line, the location of the line, the
environment the line is in?

Do you know?---My understanding is I think Bryant wrote a report that said that those factors are taken into account. Do I know whether they are? I don't know. But that's how I read the report.

You don't know whether or not they actually are?---No, I didn't do the report.

And in what way?---No, I'm sorry.

And in what way those particular conditions are reported back to engineering group, for example, so they can make decisions?---No. I know they receive a lot of data, but they receive it through the systems, through the Q4 system or the Maximo system. There is a power-on system that collects every fault and what it was due to and how long the line had been there. I'm aware of all of that. I'm not sure of the rest of the question.

I was interested to see that in your report what you say is this at paragraph 6, "In broad term SP Ausnet's distribution network assets are associated with the ignition of around 1.1 per cent of all ground fires attended by the CFA", and how this proportion has dropped from 3 to 4 per cent in the mid-1990s and had stabilised around the 1 per cent up until the time you had left. That of course is intended to give the impression, is it not, that SP Ausnet is implicated in very few ground fires as a result of electrical failure?---I think it is trying to do two things. One is it is trying to show there is a detailed plan and system aimed at continuously reducing the number of fires associated with the assets and to put that in the basis of a measure of the number of fires. If it was just a whole number, there are years where there
are significant fires due to drought and other years where there might be a wet season so there are not as many fires.

We find that figure in your statement, but we have to go and look at attachments to ascertain, don't we, that in fact as a percentage of the total of area burnt the contribution of SP Ausnet is 14 per cent, isn't it?---I don't know if that's SP Ausnet. Is that the whole electricity business or is that specifically SP Ausnet? Is that prior to Ausnet?

Public utilities?---So that would have been SEC data.

Yes. The data for the 1 per cent that you have given in your statement, are you able to tell us what percentage of total area burnt is attributable to SP Ausnet fire associated failures?---I think we should be able to - I think the number you referred to there was back in the 1983 Ash Wednesday bushfires. Since that time I think — —

It covers a 20-year period?---No, I think it was a low number. A couple of per cent. But I don't have the figure to hand.

The document I'm referring to is annexure PJA 1 to your statement. It purports to cover a 20-year period, 1976 to 1996?---Right.

Do we know or are we able to say what contribution to areas burnt the fires associated with SP Ausnet form now?---I don't have that at my fingertips.

Are you able to tell us anything about how this particular fire would have been reported within the SP Ausnet system?---Reported in the system? I think it would have been registered as a conductor failure.
Yes?---And it would have been included - from my experience at the bushfire mitigation meetings and others, each of the fires has an area burnt. Whether it is two square metres on the ground under the pole or whether it is three hectares or whatever is normally recorded as well.

So far as the Bryant report and considerations need to be taken into account, what the Bryant report says at (WIT.5103.001.0086) under the heading "Asset management systems" is this, "Support of asset condition data requires augmentation of the existing asset management system to accommodate increased asset information. The asset management system should also be integrated with the geographical asset management system. Asset inspection personnel require more detailed and objective condition based criteria to assign asset condition prioritisation. Asset inspection activities should be supported by portable data application devices capable of providing the required support for personnel to accurately update the asset management systems with enhanced asset condition data." From that it would seem that the sort of features that I drew to your attention had not been factored into that time but that it needed to be augmented; that's right, isn't it?---Yes.

And that report bears the date 20 October 2008. Has it been augmented, do you know?---Which question? Your first question was there is a system of collecting data? The asset condition data?---The asset condition data by inspectors that is provided back into the system? Yes, has that been augmented by the requirements to report - - -?---I don't know if there is a new system since that date.
Who should we ask? Who should we ask about what's happened since? Engineering group?---If I was there, I would ask the IT group or the engineering group or my people.

If your people were asked, they would be able to supply that information, I take it, would they?---They should be able to answer, "Has this new IT system" - I think you are asking a different question, but I will try to answer this one.

Is this the situation: your successor in title, who is that by the way?---There is a fellow by the name of Norm Drew. But, if I could just put in context, upon my departure from the organisation there was a restructure of the organisation. So I just put that in context.

Whoever it is is the person to give us answers to the sort of questions this Commission is concerned with, right, the ones you can't answer?---I can't speak for the Commission.

In particular in terms of assessing the disaster at Kilmore-Kinglake, finding out how it happened, why it happened and how to prevent its recurrence, you are not the man to ask; is that right?

MR STANLEY: If the Commission pleases, that is a totally inappropriate question. This witness can give the evidence that is relevant to this Commission so far as the position of SP Ausnet's assets relating to the Kilmore fire. The question my learned friend put is a meaningless one. It just gives rise to unfortunate comment.

MR RICHTER: I will put it in a meaningful way, if I may.

CHAIRMAN: Yes.

MR RICHTER: What caused the failure at the Pentadeen spur that led to this disaster?---I don't know. I thought that was some of the investigation that's been done. In my
experience - - -

It is nearly a year now. SP Ausnet presumably has been
investigating it for some time on its own because it
doesn't want it to happen again; is that right?---That
would be my view.

You still don't know. Do you know how to prevent it happening
again?---I don't know.

MR STANLEY: If the Commission pleases, again, these two
questions are questions that are for this Commission.
This man is not in a position to give evidence that will
assist the Commission with respect to either of those
matters.

MR RICHTER: Commissioners, my learned friend is absolutely
right. What we are protesting about is the fact that
no-one is being called who is able to answer these
questions. I have no further questions.

CHAIRMAN: Yes, thank you, Mr Richter.

MR RUSH: We will take the morning break.

CHAIRMAN: It is time for a break, yes.

<(THE WITNESS WITHDREW)

(Short adjournment.)

MS DOYLE: Commissioners, may I interrupt briefly to tidy up a
matter relating to the arson topic. We now have to hand a
document which was in draft form at the time the evidence
on these matters was addressed. A document titled
"National work plan to reduce bushfire arson in Australia"
is now available, having been endorsed by the Ministerial
Council for Police and Emergency Management. I therefore
tender this document, which is (AGD.914.0001) running
through to page 0012. This will obviously also form part
of the materials relevant to the arson topic.
CHAIRMAN: Yes, thank you.

#EXHIBIT 559 - National Work Plan to Reduce Bushfire Arson in
Australia, dated 20 November 2009 (AGD.914.0001) to
(AGD.914.0012).

MS DOYLE: If the Commission pleases.

<PAUL JOHN ADAMS, recalled:

<CROSS-EXAMINED BY MR STANLEY:

Mr Adams, I want to just clarify the matter Mr Richter raised
with you with respect to the bushfire statistics and the
percentage of total area burnt. It was put to you that
the figure disclosed in the exhibit to your statement is a
figure of 14 per cent. I think you indicated that part of
that would have included the damage and burning as a
result of the Ash Wednesday fire?---Yes, I was trying to
reconcile the two.

If you look at paragraph 32 of your statement, it indicates
that the findings represent the most up to date
information recorded on the Department of Sustainability
and Environment website?---Sorry, page?

Page 15. I'm just indicating to you that a reliance was had
upon the report of the Department of Sustainability and
Environment?---Yes.

I can inform you that for the period 1977 to 1996 of that
14 per cent 13 per cent was attributable to the Ash
Wednesday fire in 1983, so that the other 1 per cent
covered the other 19 years?---That was the data I was
trying to recall from memory.

Yes. So far as the percentage of fires that are related to SP
Ausnet's assets, the figures indicate and your evidence
shows that there has been a downward trend in the
percentage of fires since 1994 from a figure in excess of
3 per cent down to 1 per cent at the present?---That's correct.

What do you say is the reason for that decline in percentage, that trend?---I just think it is an ongoing commitment by the business to look at new ways to reduce the risk of fires. So there's a whole range of reasons. But specifically there is a very strong and robust bushfire mitigation process. Documents are supplied, systems are put in place and infrastructure or assets that start to be drawn out through investigation as causing fires are dealt with.

Does the fact that we are looking at a percentage ratio, does that take out the element or reduce the element of chance?---Yes, that was the objective in having that type of target. If one just had the number of fire starts, in a year where there was a lot of rain you would have a low number; in a year where you had, like we have had for the last number of years, severe dry weather there are more fire starts. So that was seen as a more appropriate measure.

You were asked a number of questions about whether it was appropriate to have less than a five-year inspection procedure. Apart from the actual asset management based upon that five-year cycle of inspection, what other inspection procedures are carried out to your knowledge by SP Ausnet?---Every year within the bushfire area there is an annual vegetation audit of the spans that have vegetation in them. Within that audit there is an instruction for people to look for any matters that might need further investigation or consideration. There is also the data that comes back from the field in relation
to engineering reviews and during the fire season there are ongoing audits, which are called the summer audit program, where all of these factors are reviewed again and a sample is done of works conducted. So there are annual audits each year, there are five-year detailed audits and there are reviews intermittently in between that.

You were taken by Mr Rush to the analysis that was made of failure rates that have been carried out. What's the purpose of those analyses?---The purpose of those analyses is to use that historic information to trend forward for the development of the asset management plans, the network asset management plans, then to determine the replacement and maintenance of those assets. So those plans also form the basis of submissions that are made to the economic regulators, the current one, the AER, the Australian Energy Regulator, that says this is what we need to do over this period of time to maintain or improve these assets.

I want to ask you about the practice that SP Ausnet have of outsourcing asset inspection. Firstly, is that a procedure that you know occurs throughout the industry?---In terms of outsourcing, it is probably important to note that you would outsource where you have something that is measurable and definable, something that you can bundle up and give to another person who is focused on it, that there is a market in place and that there are suitably qualified people. In relation to asset inspection, I think there are very few companies across Australia that actually insource or have their own people doing asset inspection. One of the reasons in my experience is that the line workers or the people one has
in the business are skilled people. They are skilled tradesmen. They like to use their hands. They like to build and do things. Some of them see it as a punishment to have to walk the lines, in a sense, as distinct from building and constructing assets.

What do you see as to the practicability of imposing a requirement that inspectors be qualified linesmen?---My experience is that it is hard to retain those people. They feel like they can do something more serviceable than inspect assets. I’m sure there is a mixture of people who would like to do that. But my experience is it is hard to have those people doing that work.

Why did SP Ausnet engage UAM to do its line inspection?---The processes when I was there, we would put out to tender a period contract. So we wouldn't just do it on a three-monthly; it would probably be a three-year or five-year contract. We would go to the market. We would look at assessable people. We would, firstly, assess who had the competency and skills and safety et cetera. Then we would look at the price that they were asking for that service. It would be reviewed. A tender committee would form. The expenditure review committee would meet, which consists of the EGMs. There would be independently test and thrust as to why. UAM, in my experience, are one of the top tier inspection services and auditing services in Australia. We use them at Jemena. They are used in other distribution. I know of companies in New South Wales and Queensland and other states that use them. So I would say, if they are not the largest, they would be in the top one or two in terms of this service.

You were asked a number of questions about undergrounding the
service you provide. If we just deal with the issue or
the prospect of undergrounding the SWER lines, what do you
say as to that as to whether it is a realistic
proposition?---That would be quite an expensive
undertaking. Practically, you could do it. A lot of the
SWER lines are over gullies and things. To underground a
line through a creek or something like that is a
significant exercise, an environmental exercise that is
not taken lightly. So across a straight plain it might be
worthwhile. But I just think, from the analysis I have
seen, it is prohibitively expensive compared to whatever
else you could do.

You have already told the Commission of, in your own
experience, an application made with respect to the
Dandenongs?---Yes.
And that was rejected?---Yes.

What do you expect would happen if an application or a
submission was put to the regulator that the SWER lines be
put underground?---Using my experience, I thought the
application for the Dandenongs was about the strongest
application we could make, that type of area and that
close to Melbourne with all of those boxes ticked. To do
a general replacement of SWER lines would be less likely
to succeed than one that hasn't succeeded.

COMMISSIONER McLEOD: Could I just interrupt. Would it be
reasonable to suggest that an all or nothing set of
options are not the only options?

MR STANLEY: Perhaps we could ask the witness that. I wasn't
suggesting that Mr Rush had indicated that should be done.

COMMISSIONER McLEOD: No, but I thought the way you posed the
question to the witness, he answered I think believing
that you were asking what was his view on all SWER lines being placed underground.

MR STANLEY: That was how the question was put.

COMMISSIONER McLEOD: Yes.

MR STANLEY: I'm happy to split it up.

COMMISSIONER McLEOD: I'm just suggesting that perhaps that's only one of a number of options.

MR STANLEY: Yes. Bearing in mind your past experience, if it was suggested that some SWER lines be put underground, what would you be able to say as to the likely response you would expect from the regulator?---There would need to be a strong case. One of the outworkings of this Commission may be in relation to some weight placed on the bushfire risk in terms of the determination of the least cost technically equivalent, and I think if there was some there may well be, I can't categorically say, but there may well be some application where SWER line would be placed underground. I think off the top of my head how much percentage there is ---

COMMISSIONER McLEOD: The reason I asked for that clarification is that I thought there was a contradiction between you saying the cost would be prohibitive against the background that you have also acknowledged that SP Ausnet at one stage had put a proposition in relation to the undergrounding of lines that had been rejected?---Yes.

So that in that particular case at least it must have been SP Ausnet's view that the cost of that particular project wasn't prohibitive?---I agree, Commissioner. The lines in the Dandenong case were three-phase with cross-arms going through areas as distinct from SWER lines. That was the differentiation. If I was to categorise, I would say
heavily dense vegetation, tourist area with lots of faults
and trees falling and bark on lines on three-phase lines
would be the ones I would put up the front end of the
undergrounding queue. SWER lines across open plains that
you can easily see and look after might be towards the
back end, although there is always a distribution of
suitable lines. Within that, depending on the level that
was agreed with the regulator, there may well be some that
come into that undergrounding, if that's a better answer.

MR STANLEY: You have indicated in the current submission
that's been put forward by SP Ausnet there is a 40 to
60 per cent increase claim for asset management. What
would you anticipate, if you can answer this, would be the
sort of percentage allowed?---My hope is that it is all
allowed. My experience has been that if it is within the
current guidelines, if it is within the tradition of "this
is how you have done it in the past, this is what you do",
it is normally allowed. When you put up things that are
of difference, a new innovative approach, that's where it
becomes far more difficult to have an allowance. One of
the submissions or one of the discussions we are having
with the economic regulator at the moment is about some
type of innovation allowance, because with innovation
there is risk and how is that funded. At the moment, if
the business funds that innovation and it works, that cost
goes straight back to the customer, that saving, in a
different technique. However, on the other hand, if the
innovation is put forward and it doesn't work, that cost
stays with the business. In the United Kingdom they have
put together an innovation allowance where companies can
put to the regulator and say, "We think there are some new
ways of doing it. To run this pilot program will cost $1 million or $2 million." The regulator has the opportunity to look at that, approve that. Those benefits, if they come to fruition, then go back into the price and reduce the cost to customers and things happen. So there is some debate happening at the moment with regulators about some of these mechanisms to improve. In my view, those opportunities could extend to managing bushfire risk.

Those discussions are being conducted by whom with the regulator?---Normally if I have an opportunity to meet with Steve Edwell or with John Tamblyn of the Australian Energy Regulator - one of the things that happened in the last two years is that the state based economic regulations have shifted to national. So the Essential Services Commission is now the Australian Energy Regulator. It is under that regulatory framework that these discussions are being had.

Mr Breheny from Powercor was asked yesterday whether he had had any discussions with a Mr Kim Griffith, a consultant to ESV, regarding SWER. Have you had such discussions?

MR RUSH: There are a number of matters that potentially arise out of this.

MR STANLEY: I will withdraw the question. It wasn't of major moment. You were asked about the issue of using dampers. In your experience or from what you know, do you have any opinion as to whether a damper serves a purpose where you have a line that is connected with a number of insulators, such as was the situation on the Pentaddeen spur line at pole 39?---My understanding of the aeolian vibration is that it comes into effect where there is no damping or
where there is no movement in the line, and another way or another contribution to significantly reducing the effects of aeolian vibration is by the use of shed type insulators as distinct from pin type. Shed type insulators, for the Commission, are a series of insulators connect by pins that look like a series of plates with a pin through. Due to the flexibility and movement in that, they tend to offer a significant advantage in reducing the vibration.

You were asked about the issue of suppression of auto reclosers and the matter of weighing up risks against benefits?---Yes.

Have you had personal experience in the situation where someone had to make the decision on this issue?---I should say unfortunately yes.

Could you tell the Commission that experience, because it perhaps reflects upon the difficulty that is involved in this question?---We had a situation on the network associated with fires back in I think it was 2007, 17 January, somewhere around there. I remember the day. It was a transmission system. We had significant fires. The fires jumped the transmission line and got themselves into a pine plantation in a change of wind. All of the pine needles and that were thrown up, caused a lot of gas, let's just say, that is conductive and tripped the transmission lines out. If I just go back one step, in transmission lines they have very clear easements, and these are transmission lines. In discussions on the day with the CFA we said, "You need to keep people out of these transmission lines and we need to make sure the fire doesn't get into them because they are the main interconnect between Sydney and Melbourne or the snowy and
the Melbourne load." Unfortunately the wind direction
changed, the fire got to that easement and the line
tripped. Then the call came through to say, "Are we going
to re-energise the line?" Now what we had off, to put in
perspective, we had off about 50 per cent of Melbourne
CBD, quite a substantial place. In discussions with
government officials and others there was a call to say,
"Can we put the line back on?" In discussions with the
CFA there was, "Hey, we're not sure whether a line has
come down, a tower has come down. We're not sure." Then
the CFA mentioned that some of their people may be under
the line, as in taking refuge in that easement. I then
received the call, "Are you prepared to put the line back
on?" I said, "Is that an instruction to put the line back
on or is that me making the decision" ---
Who was the call from?---I can't remember exactly. Someone
from the Department of Primary Industries I think, a
government department. I can go back in my notes. After
some consideration, I decided not to reconnect the line.
Without going into any more detail, after a few hours we
got some clearance and we put the line back on, found
there wasn't a tower down. But if there had been someone
under those lines, these are 330,000-volt lines, we could
have had a fatality. At the same time we have the whole
of Melbourne off supply. Subsequently there was an
inquiry and there was a lot of debate about, "Well, we
should have automatic reclose on that system." "No, we
shouldn't have automatic reclose on that system." I have
had other experiences, but I'm just trying to share that
this debate has been going through transmission
distribution. In New South Wales they have automatic
reclose in the times of fire. In other states they
disconnect the line. I'm just sharing my industry
experience to say that this is a very tough decision on a
case by case basis.

So, although that was a case of a transmission line, the
principles essentially are the same?---Yes. It is a
matter of magnitude and situation.

COMMISSIONER McLEOD: But your last comment is very valid,
 isn't it? It is a case by case basis?---Yes.

So the consequence of turning the line off needs to be balanced
against the risk?---Exactly.

The consequence and the risk can vary according to the nature
of the line and its purpose?---Exactly.

MR STANLEY: Thank you, Mr Adams.

<CROSS-EXAMINED BY MS JUDD:

Just a couple of questions arising out of the issue of the
suppression of the automatic circuit reclosers. You have
talked about the issue of risks and you have also talked
about community issues?---Yes.

I suggest to you that it is not just the community issues that
are relevant to the issue of weather you suppress
automatic circuit reclosers but that it should be phrased
in such a way as to accommodate dangers that might occur
by reason of suppression of automatic circuit reclosers
and that that has to go into the mix?---I'm sorry,
I didn't catch your name.

Ms Judd for the State of Victoria?---Thank you. I think it is
balancing the risk of loss of supply versus the risk of
fire start. So the dangers or the risk, I'm not
uncomfortable with that.

But in terms of what can flow to the community by reason of
them not having electricity for an extended period of
time, that can be promoted to the position of dangers to
the community, can it not?---Yes.

Some of the consequences that might flow could be described as
dangers to the community?---Yes. That sounds reasonable.

Mr Shawyer for Energy Safe Victoria, when he was in Beechworth,
agreed that it would be worth looking at this particular
issue, but that you would need to gather the evidence to
see whether the benefit gained outweighed the community
cost; do you agree with that?---That's the type of
decision you try to make, yes.

In terms of the type of evidence that you would want to look
at, I would just like to explore that with you?---Sure.

Does that type of evidence include whether there is any
evidence that subsequent re-energisation of lines has
caused a particular fire? Let me give you some
elements?---Okay.

There was evidence given by Mr Shawyer in Beechworth that in
that particular case there was every opportunity for the
fire to have started before the protection mechanism
operated and therefore the automatic circuit recloser be
coming into play because in all probability the conductor
slid down the side of the pole to or close to the base
level of the pole within that first period of time. So
that's one example?---Yes.

Beechworth was an SP Ausnet region?---It is in that area.

Just two other very quick examples which are Powercor. In
Coleraine there was evidence given that the fuse
protecting the SWER circuit did not operate during the
fault because the current flow through the contact with
the side of the pole and/or vegetation would have been
insufficient to trigger the fuse because of the intermittent style of that contact?---Yes, that makes sense.

In that case it wasn't re-energisation of the line because the fuse didn't even get triggered?---Yes.

Then at Horsham, as another example, the fuse protecting the SWER circuit operated during the fault. There was no automatic circuit recloser on this line because it was a fuse, and the fuse blew within 0.3 seconds. So in that case the fire started---Without a reclose involved.

Without a reclose and without any subsequent re-energisation of the line?---Yes.

So is that the type of evidence you would be wanting to put into the mix when making a decision about whether or not it is appropriate to suppress automatic circuit reclosers?---Yes. I think the point you make is quite valid. The difference between a reclose fire start and a fire start associated with some type of tree on a line or some type of failure, I think that analysis---they are some examples, but I'm sure there is a lot more data. I don't have a view, but I think that's exactly the type of analysis on, let's call it, the risk side of equation. On the other side, the data that needs to be taken into account is the situation when the power is out and what does that mean to the community on a day of total fire ban. So that's the balance.

Other evidence that might need to be looked at is the percentage of fire starts by reason of power assets compared to fire starts generally?---Yes. As I mentioned earlier, of the 4,000 or 5,000 that happen in the Ausnet area, around one and a bit per cent are associated with
the assets compared to the other fire starts. Then it is a matter of drilling into those 1.5 per cent to see whether they were conductor failure, pole failure, lines, insulators, trees, vegetation, whatever and then working through in a prioritised manner to minimise that, to continue to drive that performance forward.

<RE-EXAMINED BY MR RUSH:

Mr Adams, I take it before SP Ausnet embarked on the suppression of auto reclosers in high fire danger areas it looked at the sort of issues that have just been raised?---My understanding would be there would be a conversation, if there was to be that, between the local person, the control room and potentially someone from the asset engineering because, as we have heard earlier, there is to do with what's called discrimination of protection and making sure that's all worked out.

As we discussed this morning, SP Ausnet suppresses on designated feeders in high bushfire risk areas?---Yes, that's right.

It adopts the suppression of auto reclosers in those areas?---On those feeders, yes.

You were asked by Mr Stanley about a decline in the trend of fire starts. One of the statistics in relation to fire starts or the greatest cause of ignition is vegetation from trees falling on powerlines?---That sounds familiar. What's been done in relation to that?---Well, there is a vegetation clearance code. There is a ---

I want to really concentrate. I suggest to you that with the vegetation clearance code, with the management protocols that are in place, 22 per cent, the highest number of fire starts, are caused by trees. So what's been done in
relation to that in the last couple of years?---As I was
trying to say, in the last couple of years, in my time
there there is a rigorous vegetation management program.
I think the business would spend in the order of 12 to 15,
maybe even more, maybe even heading up towards $20 million
a year on trimming vegetation around trees. They would
have also instituted in my time there a program called
removal of hazardous trees. So, although there is a
clearance space around the line, there was an additional
effort to remove those trees that were outside of that
space that could actually fall on the line and cause some
damage.

So you are looking at hazardous trees outside the strict
protocols?---Yes, trying to do as much as we can to
minimise that number.

Just a couple of other matters. You were asked about UAM. Do
you know anything about the selection process, SP Ausnet
and UAM?---I know about the structure of the process, not
that particular contract. My understanding is a tender
went out and I can talk through that process.

Have you ever compared the way in which UAM conduct the
instruction of their inspectors with the way in which
Electrix do, who are the Powercor inspection
contractors?---I personally haven't, no. Some of my
people might have, but I haven't.

When you told Mr Stanley about UAM, you did so from a position
of never having compared the instruction protocol of UAM
with Electrix?---When I made the comment that they are one
of Australia's largest? Which comment are you referring
to, sorry?

You have never compared the UAM manner of instruction of
inspectors with the Electrix -- --?---That is right.
I just said that.

You were asked about the undergrounding of SWER lines and you indicated from the analysis that you have seen that it would be prohibitively expensive. What is that analysis?---I'm not referring to a particular report. I'm talking about a series of information and discussions over the years. In terms of the cost of undergrounding it is in a good area three to four times, in a bad area 10 times the cost of overhead. That's been my experience. Therefore when one puts those into a report it only brings up small pockets. Normally the best time is do it first off, which all new estates are underground as a matter of policy.

To take up Commissioner McLeod's question, in high bushfire risk areas, allowing for cost, there is the potential, as you have referred to from SP Ausnet's point of view, there is the desire where appropriate to put powerlines underground with the appropriate considerations going to financing?---I will just say I can't speak for Ausnet today, but when I was there an approach was made to underground certain areas to minimise the risk, improve reliability and amenity.

COMMISSIONER McLEOD: Which potentially could reduce the risk of failure during bushfire?---Yes.

And have the benefit of maintaining continuity of service?---Exactly, yes, and even the benefit outside of bushfire where damage can occur that doesn't start a fire.

MR RUSH: From the SP Ausnet point of view, the places to start would be those places which you have identified where there is suppression of auto reclosers; they are the
high-risk areas?---There is a difference between the areas
that have auto reclosers and the areas that might be high
risk, because in the Dandenongs there is a different
protection configuration, without going - unless you want
some more detail.

They are the matters, Commissioners. There are a number of
documents that I took Mr Adams to that I desire to tender.
If it is convenient, I will have them typed up and they
can be put into the tender bundle in chambers.

CHAIRMAN: Yes, thank you. You are excused.

<(THE WITNESS WITHDREW)

DR DONAGHUE: Commissioners, I recall Mr Gardner.

<KENNETH ALEXANDER GARDNER, recalled:

Mr Gardner, could you state your full name?---Kenneth Alexander
Gardner.

For the four years leading up to 9 August this year you were
the director of Energy Safe Victoria?---I was.

You prepared a statement dated 26 August 2009 which was
tendered when you gave evidence on 10 September; is that
right?---That's correct.

That's exhibit 223. After that hearing you prepared a further
supplementary statement dated 23 September 2009?---That's
correct.

Are the contents of that supplementary statement true and
correct?---They are.

I tender that supplementary statement.

#EXHIBIT 560 - Supplementary Statement of Kenneth Alexander
Gardner, dated 23 September 2009 (WIT.3020.003.0001) to
(WIT.3020.003.0026).

DR DONAGHUE: Going to your first statement, exhibit 223, do
you have that in the witness box with you?---I do.
If you could turn to paragraph 100. In paragraph 100 you say, "Often ESV attempts to adopt a co-regulatory approach to the regulation of the energy sector. In the area of electricity this means that the regulated entities will regulate their business in accordance with the various systems they have adopted. For its part, ESV seeks to collect information to inform itself on whether the particular regulated entity has adequate systems that are being properly applied and utilised." Would you agree that what that really means is that ESV's approach to its regulatory role of electricity distribution businesses is to focus on the processes adopted by those businesses rather than to mandate particular outcomes?---That's correct. So we are looking at their processes and management systems.

Does it follow from that that in ESV's view it is not part of its regulatory role to prescribe or mandate particular outcomes even if it thinks that those outcomes would improve safety?---That varies from topic to topic. In some circumstances, particularly in the area of safety, under the co-regulatory approach there is an ability to impose standards if it was felt appropriate. But certainly under the way that the Bushfire Mitigation Act and regulations are set up that ability doesn't exist.

Does not?---Does not.

Notwithstanding the fact that ESV has a statutory power to approve or decline to approve bushfire mitigation plans?---That's correct.

So, in effect, the way that ESV approaches the discharge of its function to approve or not approve plans is to look at whether the business that has submitted the plan has
addressed the matters it is required to address in the
regulations and, if those matters have been addressed, it
will approve the plan without a detailed review of the
content of the policy that the business adopts in relation
to any particular topic?---I would say often or, if not,
normally we would have a reasonably detailed review of the
content and we would want to satisfy ourselves not only
that the issues had been covered but at least on the face
of it that they looked reasonable and that improvements
were occurring, appropriate policies and procedures were
in place and that, if we didn't believe that was the case,
we would challenge the companies to provide more
information and documentation up to a certain point. But
in the end we do have to approve a plan if they have dealt
with all the areas that are covered in the regulations.

When you say you have to approve the plan if they have dealt
with the topics, where does that obligation come
from?---Well, within the context of the regulations it
says they must submit a plan, must deal with these areas
and there is a penalty on them for not submitting a plan,
but there is nothing that prescribes a standard that fits
within each of those areas. So our basis for behaviour
is, provided that it does deal with the issues and that it
looks to be sufficiently rigorous, that we approve the
plan.

Can I show you just by way of example the document that is
annexure 47 to your statement. It is (WIT.3020.001.1395).

COMMISSIONER PASCOE: While that's coming up, can I just ask
the figure we had from the previous witness was of a rate
of 1.1 per cent of fire starts caused by the company
asset?---Yes.
So when you say there is not a standard for the ESV or now the AER, does that mean that there is no way really of the regulator assessing whether that's a reasonable rate?---The way that we have dealt with that issue over time is to say that we are seeking to have improvement over time, so we want to see that number going down. I think the businesses have been able to demonstrate both to us and here that they have put in place changes and improvements over a period of time that has reduced the number of fire starts that are caused by their assets. That obviously needs to continue and there are a whole heap of things that need to be done to —  —  — But that's a process in the absence of a standard?---In the absence of a standard, that's correct. Can you see benefit in having a standard?---I think there are benefits in having standards in relation to certain aspects, definitely.

DR DONAGHUE: Mr Gardner, the document that's in front of you is an Energy Safe document. This is the kind of document that Energy Safe uses in evaluating bushfire mitigation plans; is that right?---That's correct. Down the left-hand side those numbers 5(a), 5(b), 5(c) are references to the bushfire mitigation regulations?---And their requirements, yes.

Essentially the way this process is adopted — and I won't take you to the specifics, but if you need to look through the table you can — it matches up the requirements in the regulations on the one hand and then identifies the place where that topic has been addressed within either the bushfire mitigation plan or the underlying supporting policy documents?---That's correct.
You make sure there is a policy on each topic?---That's correct.

Once there is a policy on each topic, you approve the plan?---We approve the plan or - you will note that the process for reviewing the submission is that it is either okay, not adequate, needs resolution or there is a query put alongside it. Given that these plans are submitted every year, they are substantially the same every year and are quite voluminous and detailed, we are looking for improvements in the plan as it progresses over time and whenever we see something that doesn't look right on the face of it we put a query on it, we go back to the businesses, there may be a number of iterations backwards and forwards before the plan gets approved.

But in relation to many of the topics that are dealt with within the plan there would be room for a range of possible different approaches? To take one example that's been discussed this morning that I will return to later, the reclose question is a question upon which a range of possible outcomes might be adopted. You don't reach a judgment as to which of those possible outcomes has the best safety outcome, do you?---No, that responsibility lies with the business. We might challenge them if we think they have come up with something that is wrong or we may pursue it further if it was wildly inconsistent with what everyone else was doing. But in the end it is their responsibility.

So it has to be a real outlying proposal before you will challenge or refuse approval on that basis?---Correct.

Distribution businesses - again, we have heard some evidence about this this morning - don't get to control their own
prices, do they?---No.

Those prices are now as of the start of this year controlled by the Australian Energy Regulator?---That's correct.

ESV doesn't have any role in relation to the setting of prices either, does it?---No.

Given the distribution businesses can't set their own prices, does it follow from that that any bushfire mitigation steps that they might take will inevitably be developed within the context or subject to the constraints of the funding model then in place?---That's correct, subject to a five-yearly review when they can obviously make a significant step change in expenditure. Within the normal price reset period they are constrained. But they do have flexibility about how they spend the money that they are allocated by what was then the Essential Services Commission. So they do have power to swap it from one area to another.

Within the available pot of money?---Right.

That opportunity every five years to step change is an opportunity to submit to the regulator that they should be given additional funding to undertake a step change, but they won't actually be able to make that change unless the regulator agrees?---That's correct, or they can spend their own money which they have from other places.

Does ESV see a role for itself in lobbying or making submissions to the price regulators about safety changes, investments or innovation in electricity networks that might improve the safety of those networks?---We do. We have had extensive discussions with the pricing regulators in the past. We have a memorandum of understanding with them about how we will communicate with them both during
normal operations and during the price reset period. For example, on this occasion we have made submissions to them wanting them to take a longer term view in terms of asset management rather than, as you say, restricting it to five-year periods. We have sought to be involved in that process.

Mr Adams this morning gave some evidence about a proposal by SP Ausnet to place their lines through the Dandenongs underground and Mr Breheny on Wednesday gave evidence about similar proposals about undergrounding lines through the Otway and Macedon Ranges. Would ESV regard its role as being to support power companies in proposals of that kind that would reduce bushfire risk?---Potentially. I was aware of the Powercor one, whereas I don't think we were involved in the SP Ausnet one in the Dandenongs. But we would often, if we thought it was worthwhile, be prepared to support proposals that are put up to the ESC.

What does that qualification "if we thought it was worthwhile" mean? Isn't it worthwhile for power companies to be encouraged to underground lines that pose a high-fire risk?---In that situation, yes, it is. But the sorts of submissions they put up can cover a very broad range. It could be relating to quite a variety of potential safety initiatives, not just bushfire mitigation.

But if the proposal that the power company is putting up, the distribution company, relates to something that would reduce the risk of bushfire starts from their assets, generally speaking that would be something that ESV would support, wouldn't it?---Generally speaking it would be, yes.

And actively support through submissions to the price
regulators?---I'm just trying to recall in that situation whether we were asked to or involved. We certainly were on a number of broader safety matters which probably had bigger implications in terms of pricing. I don't remember being directly involved on those issues.

But if you were asked to, for example, be involved, that would be something that in your opinion ESV should be supporting?---It is something certainly that ESV would want to be involved in.

COMMISSIONER McLEOD: If the proposition was built around improving safety at a higher cost and also improving serviceability for the community, would your organisation have any capacity other than to support it if the purpose is to make the situation safer?---No, I'm sure we would support it. There would be a whole heap of other regulatory hurdles that it might have to overcome. I'm only talking about your organisation. In a sense, you would only have one option: that is to either not become involved or to support it, given your role? If the purpose is, from your point of view, obviously to improve the safety of the network and to protect the community against possible fires, given your role, you could hardly not support it?---Yes, it would be very surprising if we didn't support it, if they were the outcomes that we were looking to achieve. We might want to offer suggestions about how it might be more effective or so on and so forth.

Even more safer?---Yes. But it would be very hard for us not to support it.

DR DONAGHUE: So when you said that, if you were contacted in advance in relation to a proposal of that kind you would
certainly be involved, that meant you would support it?
You are not suggesting something different by the word
"involved"?---No. Look, it is always nice to know the
detail before you commit yourself but, given the
principles that we are talking about, yes, we would
support it.

Over the last 20 or 25 years would you agree that the bushfire
mitigation processes and vegetation clearance processes of
the power companies have delivered significant
improvements in terms of reducing the number of fires that
are caused by electricity distribution assets?---I would.

Is it the case that those existing processes, the current
regime in relation to bushfire mitigation and line
clearance, are reaching a point of diminishing returns in
relation to the improvements that it can
deliver?---Possibly. Certainly if you go back 20 years or
25 years when a lot of these processes were put in place,
given there was a much higher level of fire starts, it was
probably a lot easier to generate an improvement. When
you are getting down to 1 per cent of the fire starts,
then it becomes more difficult to see significant change,
unless you do go down the route of quite fundamental
change in the way the electricity supply is delivered.

Indeed. So we are getting to the stage where we have stopped
the obvious tree branches landing and largely reduced the
level of conductor clashings so that it is getting harder
now to bring down the level of fire starts that are
currently being caused by the network?---I think that's
right. The easy, obvious ones that are highlighted out of
the statistics have been worked pretty hard.

Do you recall the power company representatives putting to you
at the lessons learned meeting you had with them in April this year the view that, "We really were reaching the point where it was difficult to get further improvements from the existing system"?---Yes, that's true.

Can I show you a document that the Commission was given by the CFA. It is (CFA.001.032.0293). It is a graph of fire starts relating to electrical infrastructure. You can see that there are two graphs on the page. If we could just have a quick look at the first one and then the second. You will see the first graph deals with total fires per year and the second deals with electrical infrastructure fires within the fire danger period. If we could just go back to the top chart, that indicates on the CFA's figures 509 electrical fires in 2009, electrical infrastructure fires; do you see that?---I see that.

If you look at the equivalent bar in the table below, 442 appear to have occurred within the fire danger period. So a very substantial percentage of the overall fires that are caused by electrical infrastructure occur in the danger period. Do those figures accord with your understanding of the position?---Probably more so in the years leading up to 2009. 2009 stands out as being an unusual year with a significantly higher number of fire starts over the period, if that's correct.

There does, though, looking just at the top chart, appear to be a general upward trend, would you accept that, over the last 10 years?---Over the last 10 years, in that sort of middle five or six year bunch, it looks fairly consistent to me. You want to delve further into the data behind those numbers to find out what's led to that change and how significant it is.
COMMISSIONER McLEOD: If you put a statistical trend line through those bars it is clearly in a significant upward direction, wouldn't you agree?---I would, but that's why I'm a bit surprised and wanting to just know the numbers behind, say - for example, 1999 would seem to be a very low number, which is the second from the left. I would just like to see if there was any change in reporting requirements or definitional requirements in the mix. But on the basis of the graph, yes, it is going up.

DR DONAGHUE: I can't give you a breakdown of those numbers, but the Commission has heard evidence in the last few days that in each of the last three years on Powercor's network alone there have been over 100 fires started, 100 ground fires that is, 113 last year, and SP Ausnet we heard this morning 72. So, even if one looks just at those figures, you have 185 fires caused by the assets of those two companies. It is the case, isn't it, that once you have got a ground fire being started by electrical assets each one of those fires has the potential to become a devastating bushfire? Whether or not it does essentially depends on luck. It depends on whether or not the fire happens to be started on a day where the conditions are such that the fire will grow and spread?---Yes, I agree. Once the fire has started, certainly the outcome is certainly not something that is within your control and it depends on a lot of other factors. But just to come back to the data, and I agree with what you are saying, we have heard that Powercor average around 100, let's say 110, and you add in SP, so you are up to 185, and you add in Jemena, which would normally have a lower number because of where they are, so on that you are looking at sort of
250 fire starts caused by electrical infrastructure. So I would really need to understand why that is so different from what is presented in this graph.

But, even if we leave out the 509, I can't give you a breakdown, you are still talking about possibly 200 fires a year starting from electrical assets?---On average, that's what it has been, around 200.

If they happen on the wrong day they will become fires like the Beechworth fire and the Kilmore fire, which cost lives and destroy vast amounts of property?---Yes, I agree. That's why you have to work hard to get the number of fire starts down, because you don't know what the consequences are going to be.

And you can't know by nature of the fact that these are errors that can't be accurately predicted as to where they will occur?---That's correct.

Given that background, does ESV have a view about what absolute number of fires per year is an acceptable number?

MS JUDD: If I can ask for some clarification in relation to this. It is not clear that the figures on the graph relate just to bushfires, grass fires, house fires and so forth. So I would just ask Dr Donaghue to be very clear as to what he is asking this witness to address.

DR DONAGHUE: We were given this graph by the Country Fire Authority without a breakdown of the components, but I'm very happy for Mr Gardner to focus on 185 fires we know are directly referable to Powercor and SP Ausnet distribution assets.

COMMISSIONER McLEOD: But the fires, if the title is correct, are about electrical infrastructure.

DR DONAGHUE: That's correct.
COMMISSIONER McLEOD: Which are poles and transmission lines et cetera.

DR DONAGHUE: That's correct.

COMMISSIONER McLEOD: The delivery mechanisms; is that correct?

DR DONAGHUE: That's our understanding, but I can't go into the underpinning numbers.

COMMISSIONER McLEOD: It might be city or country, but it is those things that carry electricity around the state.

DR DONAGHUE: The Country Fire Authority tells us that these are the infrastructure numbers.

COMMISSIONER McLEOD: That's at least my understanding of the title of the table.

DR DONAGHUE: I would agree with that understanding, but I can't take it further in terms of the numbers that are there. We do know with some level of detail about the fires caused by the two distribution companies that cover most of Victoria. Even if you just focused on those fires you would agree, wouldn't you, that they present a major risk to the Victorian community?---I agree, yes.

And that that's a risk that ESV would be concerned about necessarily?---Mm-hm.

And that it would support proposals designed to bring that number down, if that's possible?---Absolutely.

The Commission has heard evidence again in the last few days to the effect that both Powercor and SP Ausnet have documents that state that their existing overhead assets, particularly SWER assets, are approaching the end of their engineering lives or are exhibiting some end of life characteristics; would you agree with that?---I would agree with that. We had always thought there was another 10 to 15 years to go; but, yes, we would agree with that.
There is an inevitable time lag, isn't there, in the replacement of a network of this size? So we are fast approaching a position where significant investment will be required in renewing the existing distribution infrastructure of the distribution businesses?---Yes, I believe so.

Are you familiar with some of the expert evidence that's been given in this Commission by Professor Hastings and Dr Gates which also indicates that the ageing infrastructure may well now be exhibiting hidden defects of a kind that are difficult to detect by inspection?---I'm familiar with the evidence by Dr Hastings, not so much Dr Gates.

Would you agree that as assets approach the end of their engineering lives they are likely to begin to fail in failure modes that are associated with the fact that they are reaching the end of their lives rather than to experience random failure modes?---Yes.

It is predictable that if the infrastructure continues to approach the end of its life it will begin to exhibit a trend of particular kinds of failures?---Yes. There will be a statistical description that you will be able to produce of that. There will be a pattern over time.

That kind of failure, if it is allowed to occur, may well impact on the number of fires that are started?---If it is allowed to occur, yes.

If we are confronted with the situation where the infrastructure needs to be replaced, one way of dramatically reducing, if not entirely eliminating, the risk that distribution assets will cause fires is to place them underground; would you agree with that?---I would
agree with that.

If you do that, not only do you reduce the risk of fire but you also eliminate the risk that supply will be lost when fire goes through a particular area?—Certainly reduce it.

You reduce, if not eliminate, the risk that the assets will be destroyed in the fire or significantly damaged by the fire?—Reduce it, I would think.

You eliminate the need for vegetation clearance programs?—Yes.

And you significantly reduce the need for regular visual inspections?—Correct.

COMMISSIONER McLEOD: And you provide essential power for households and the fire services working on the fire within the area?—Yes, that's correct.

DR DONAGHUE: Because the assets aren't affected by the fact that the fire is going through?—Yes, the power supply should remain continuous.

In recognition of the benefits of an undergrounding type process it has been a requirement for many years now that new urban lines are placed underground; is that right?—In new subdivisions, yes.

When privately owned lines have to be replaced, they are required to be placed underground as well?—That's correct.

So as a matter of principle does it follow from that that there is acceptance that this is a good idea, subject to the cost; undergrounding of lines is a good idea, subject to the cost implications?—Certainly from a safety and fire point of view and, well, from many other points of view, I think, yes, it is a good idea, as you say, subject to the cost.
Powercor in its submissions to the Essential Services Commission in relation to the current price period, 2006 to 2010, made submissions to the ESC in favour of the ESC examining the undergrounding of assets; did you know that?---Yes, I was aware of that.

Do you know whether the other power companies did the same thing?---No, I don't.

Did ESV make any submissions in relation to the current price review in relation to the topic of undergrounding of assets?---Not that I'm aware of, no.

The new price review is on foot in relation to the Australian Energy Regulator; that's right, isn't it?---That's correct.

Do you know if ESV is making submissions to the current price review in relation to this topic?---I don't know.

Do you think it should be?---I think ESV should be making submissions in relation to the current review on a number of topics, one of which would be undergrounding of powerlines in selected high-risk areas.

So it should be making submissions supporting the funding model enabling that kind of work to be done?---Supporting the further examination by AER of the concept and how it might work.

That's a fairly qualified answer. The concept is fairly clear, isn't it?---It is. What I'm really trying to get to, I'm not saying underground everything. I think you have to be a bit more selective than that. Therefore you have to come up with some criteria about the order of things, where is the risk, when does the risk outweigh the cost. It is not as black and white as it might seem.

The way in which the policy should be implemented is not black
and white?---Right.

We have heard from Mr Adams that SP Ausnet have sought a 40 to 60 per cent increase in their capital expenditure in the next price review period. If they get that money and they build new assets that are overhead assets, then that's an investment that commits you to that process for a long time going forward, isn't it?---Yes, it locks you in. It changes the cost benefit analysis around, yes.

Does it follow that, given that the existing assets are reaching the end of their life, you need to make the right decision at this point in this price review in relation to how you are going to fund replacement or you lock yourself in by investing in these expensive assets in a form that might be a form that increases bushfire risk?---Certainly I don't know if it is in this price review in terms of, say, SWER lines, if that's what the main interest is in. But certainly over the next - - -

Don't confine yourself to SWER lines?---For that group, certainly over the next 10 years you are going to need to make a decision about how you are going to replace them, what you are going to replace them with, what are the alternatives that you want to look at. In some of those situations undergrounding will be appropriate, but in others there may be other solutions.

From a safety point of view, the preferred position is clear, isn't it? There might be other considerations that aren't safety considerations, but from a safety point of view isn't undergrounding in high-risk areas the way to go?---That's the qualification, in high-risk areas. If we had an unlimited supply of money then, yes, what you are suggesting may be the case. But what normally is the
situation is you have to make decisions about the order of priority and how you are going to get the maximum level of safety and the maximum reduction in fire risk out of the amount of funds that are going to be made available.

But that's not a trade-off that ESV has to concern itself with. That's a trade-off that the AER has to concern itself with?---That's correct.

As an input into the AER's processes, isn't it desirable that ESV make it clear that it has a preferred position in terms of safety of the community, and that that position is that everything should be done to reduce the number of potentially catastrophic bushfires in a year?---Our preferred position - even set out in our legislation - is we have to reduce the risk to as low as practicable, and that applies whether it is safety or fire starts.

But if the existing processes, having operated for a long period of time, are now getting to the point of diminishing returns and we still have 185-plus maybe up to 509 fires a year, that focuses attention on the need for a step change, doesn't it?---It does.

Commissioners, is that a convenient time?

CHAIRMAN: Yes.

<(THE WITNESS WITHDREW)

LUNCHEON ADJOURNMENT
UPON RESUMING AT 2.00 PM:

KENNETH ALEXANDER GARDNER, recalled:

DR DONAGHUE: Mr Gardner, until around 1997 or 1998 there was an industry standard in the electricity industry to inspect distribution assets every three to three and a half years, is that the position?---That's what I understand.

In 1997 Powercor was a trailblazer in changing that when it moved to a five year inspection cycle?---Yes. I wasn't around at the time, but certainly in that late 1990s it would appear that it changed to around a five year inspection cycle.

And the other distribution companies followed Powercor's lead, effectively. Since that change occurred and since ESV or the Office of the Chief Electrical Inspector became ESV, the five year cycles continued to be approved by ESV?---I don't know that it has to be approved by ESV.

It is one component of the bushfire mitigation plans, is the regularity of the inspection of assets, isn't it?---So it is accepted by ESV, yes.

It is a component of the plans that you approve?---True.

Is the five year cycle. That approval is based, I suggest, on the assumption made by ESV that the reliability centred maintenance analysis carried out by the distribution companies supports the view that that's an appropriate period; would you agree with that?---That decision was made before I was involved, so at the present time really it continues to be accepted as part of the plans on the basis that there is no obvious increase in failures, basically.

But if you were to become aware of deficiencies in the
reliability centred maintenance analysis that suggested that in fact that period is too long, that would cause ESV to look again at the length of the appropriate inspection cycle?---It would, yes.

Can I show you one of the documents that constitutes the RCM analysis performed by Powercor in 1997. It is (PAL.016.001.0015). Are you broadly familiar with reliability centred maintenance analysis?---I'm familiar with the concept, yes.

The analysis carried out by Powercor consisted of a number of work sheets. What is on the screen is what is called their justification worksheet which can you see in the top left-hand corner. If you look at the line second row down for ties, it says, "There is a significant incidence of broken ties (92 were recorded in OAS as responsible for faults in one year), particularly on steel and ACSR." You see under "Task", "Broken ties can be seen from the ground in a high proportion of instances. Consequently, the time of risk, when the tie has broken, can be reduced by identifying these failures during cyclic inspection." If I can then take you to another work sheet at 0010. If you can see there the top row relates to tie wires and you can see over in the column relating to the "Initial interval", can you see the asterisk there?---Yes.

The asterisk is explained on the next page, 0011, where it reads, "These defects can be observed from the ground during cyclic inspection and many cases will be reported. Some attention to training of inspectors plus greater uniformity of recording across Powercor should improve the effectiveness. The cyclic program intervals are generally too long to be fully effective, but significant risk
reduction is provided by the reports which should be made." That indicates fairly clearly, doesn't it, that even at the time of the analysis there was an acceptance on Powercor's part that the five year interval was generally too long?---As I have indicated, I wasn't part of that process or around in the 1990s. I didn't start at OCR until 2004. So my experience has really been in terms of looking at the annual statistics and the failure rates that are part of the analysis of the bushfire mitigation plan. But, to answer your question, yes, they are indicating that they are while mitigating the risks of that change, there may be a better alternative. They're going to miss some, indeed. The ongoing approval of that five year interval really reflects an acceptance of the decision made back then on an ongoing basis rather than on a fresh reappraisal that's been undertaken by the ESV since then?---That's correct.

If the five year interval is too long in relation to poll top assets like a tie wire, it would follow, wouldn't it, that if you have a 10 year interval because you have a different kind of pole like a concrete pole, that would be far worse again?---Probably. I think you would have to do some analysis and it would depend where in the life cycle of the pole it was. Ten years might be an acceptable period in the first 10 years, but certainly once it is 40 years old then you would think that 10 years would be sort of grossly inadequate. Because if your failure mode is relating to an item of pole top asset that isn't connected to the pole, it is not sensible to tie the inspection of one kind of asset that might fail to a feature that isn't connected to the failure mode, is
it?---Agreed, and that's why you would need to do the
analysis on each of the individual components.

There is expert evidence given to the Commission by Professor
Hastings and Dr Gates to the effect that the five year
interval is too long to detect all of the failure modes.
If that evidence were to be accepted, then would you agree
that ESV should be looking at not approving bushfire
mitigation plans if they contain an interval of that
period?---I think, yes, ESV should be requiring their
businesses to re-examine the inspection intervals for all
of their components and to re-demonstrate what is an
appropriate inspection interval, which may vary depending
on the age of the asset.

Indeed, it is quite possible that the appropriate approach is
not to have a one-size-fits-all inspection interval, but
to adjust depending on the age of the asset?---Yes,
agreed.

Or possibly other factors that make the asset an asset at
higher risk than normal?---Yes. It could be the location
of assets --

Length of conductor span?---Yes, a whole range of issues.
Differential conductor spans; all of those things could suggest
a variable inspection interval is appropriate?---Yes,
correct.

ESV audits bushfire mitigation plans every year?---Yes.
This year, following the bushfires, ESV decided to conduct a
further audit of both SP Ausnet and Powercor's
assets?---That's correct.

Can we bring up (WIT.3020.001.1568). Can you just have a look
at the bottom of that letter as well. This is a letter
from ESV to SP Ausnet advising of the follow-up audit, is
that right?---That's correct.

You can see in the paragraph that's at the bottom of the screen

ESV indicating that it seeks more understanding of SP

Ausnet's current asset management system adopted to detect

potentially ageing and potentially defective assets, and

which supports its position of taking no action in

relation to certain of its deteriorated assets. So this

is an audit that departs from your usual practices. This

is something extra that was being done after the

fires?---That's correct.

Because there was a concern on ESV's part that a number of the

major fires had been started by distribution

assets?---Yes. In the audit that we had done as part of

the audit for that summer, which is a regular audit, there

were some issues identified in relation to rust on

conductors and rust on tie wires. In some instances it

was because the rust or corrosion and pitting hadn't been

recorded in the database by the inspectors and in another

case, which I think was SP's case, it had been recorded

but it was decided to take no action. We questioned that

decision. I think it is fair to say that we weren't

satisfied with the response, so we decided that a further

audit concentrating specifically on that issue needed to

occur.

Indeed, in the Powercor asset the auditor had concluded that

the majority of rusty ties and conductors were not being

detected in the asset inspection process. Are you aware

of that?---I'm aware of that.

That was part of the driver for this follow-up audit,

too?---That was the other side of the driver, if you like.

If we can bring up (WIT.3020.001.1001), which is annexure 37 to
your statement. It is a flowchart showing the audit outline and it is a little hard to read. If we can blow it up so we can read the top right-hand side. Have you seen this document before?---Yes, I have.

This is a document outlining the kind of questions that were to be asked of the power companies during this additional audit?---That's correct.

If it is blown up sufficiently so that you can read it, the questions asked are: who and when was the current criteria for serviceable conductors/ties developed, how was it determined, what risk assessment was conducted, what is the expected design life of the various steel constructions, what lifespans are you achieving, what proof testing was carried out, are there different inspections. Aren't all of those the kinds of questions that ESV should have been asking quite some time ago? Don't you need an understanding of those things in order to decide whether or not to approve the plans?---I think the in-depth audit that we are talking about here is a revisiting of the whole system, so we might think that we know the answer to those questions and we might believe that we have an understanding, but the purpose of this process was to take everyone back to scratch and start again, if you like.

MR STANLEY: If the Commission pleases, my instructions are that this was actually prepared in response to the fires. It wasn't simply a follow-up audit. That matter perhaps ought to be clarified.

DR DONAGHUE: I'm not sure how that objection differs to what I put to the witness in relation to this being something that followed on from the fires?---It is both. The issues
were raised in the audit for this summer or last summer. There was correspondence on the issue. Then this audit took place.

But it is fair to say – I suppose there is a level at which it is hypothetical, but there is often some to and fro after the audits. The fact that there were major fires was a significant contributor to this process?---Yes, it certainly brought it forward.

If you've gone back to square one, if you like, to re-examine everything, does that mean that there has been significant material provided to ESV by the distribution companies to answer all of these questions?---This audit is still ongoing, as I understand it. I'm not aware of the level of material that's been submitted. As I understand it, they have done the first round of discussions and document collection and now they're doing some field work, actual testing of rusty tie wires and conductors in the field. That's the next step, if it hasn't started.

So there isn't yet a report or a product that's come out of this review?---Not that I'm aware of, no.

Is it intended that there will be?---Definitely.

And that document will then be used, will it, by ESV in deciding whether or not it will require changes to be made to the existing asset maintenance and bushfire plans?---Yes.

Who is conducting the audit? Is ESV doing it itself?---No, we have a contract with the same auditor that we used for the summer audit who raised the issue in the first place.

IJM Consulting?---Yes.

That's doing the audit for all of the distribution businesses?---Only two of the distribution businesses,
which is Powercor and SP.

You said that there is some field work being carried out. Can I show you (PAL.003.001.0091). This is an ESV document, when it comes up, "Steel conductor – field audit scope of works." Are you familiar with the scope of works for the field auditing?---Look, I don't remember the detail of it, but I certainly was aware that at the time we started the audit that it was planned that this would be required and it would need to be part of the audit.

In summary, is it fair to say that this involves actually going out, removing conductors and pole top assemblies that are currently in service, replacing them with other assets and then taking them away and conducting a forensic examination of the assets?---That's correct.

To test, for example, levels of corrosion and fatigue in the conductors and pole top items?---That's correct. The idea is that you can see rust or corrosion or pitting and there is a disagreement, if you like, or we haven't convinced ourselves that there is an adequate decision-making process in place. So, the purpose of the field tests is to take examples of the different states of assets that you find and then to actually test them to see if you can make decisions based on what you can see on the surface in terms of the actual condition of the conductor or tie wire.

Or whether they are more fundamentally exposed to possible failures that you can't see visually?---That's correct.

Do you know when it is anticipated that this audit will be complete?---I don't. I would have thought it would be complete by now. But, as you can imagine, when you set up a program where you go out in the field and you have to
turn off the power supply and cut down parts of the line
and take it away, there are obviously scheduling issues to
do with that, that means it has taken longer than I would
have anticipated.

Are you able to inform the Commission as to how widespread the
audit is, how many samples are being taken? Are we
talking about tens of samples or hundreds of
samples?---I'm not aware of that.

Finally, Mr Gardner, on a different topic, the question of
automatic circuit reclosers and the suppression of those
devices. You would agree, wouldn't you, that there is a
longstanding, going back at least two or three decades,
practice in the electricity distribution industry of
suppressing automatic reclose devices on some lines in
some circumstances in order to reduce fire risk?---Yes, on
some lines.

And that's a practice that the industry has adopted for a long
period of time because it accepts that the suppression of
these devices reduces the risk of bushfire starts?---I
believe so. I think it goes back to the SEC days and
that's its purpose, yes.

But that's the reason it is done?---That's the reason.

It is accepted that if you leave reclosers in force they will
increase the risk that fires will occur?---Yes.

That's not a contested fact within the industry?---No, I don't
think so.

You are aware that both Powercor and SP Ausnet do adopt a
practice where they will suppress their protection devices
on some of their lines some of the time?---Yes.

Are you aware that SP Ausnet has moved away from the practice
of suppressing protection devices in relation to any of
its lines where it has a neutral earth resistor
installed?---I wasn't aware of that. I knew they were
doing work installing neutral earth resistors and that
part of the reason was to see if that was a better
outcome.

Are you aware of the fact that the principal benefit of the
installation of a neutral earth resistor is to decrease
the fault current that occurs, significantly decrease it
in the immediate geographical area surrounding a
distribution substation?---In general, yes. I mean I'm
not a technical person so I get very vague after---

Would you accept that, even if you have installed a device of
that kind, nevertheless distribution lines may well be
carrying hundreds of amps worth of current and certainly
ample current to start a fire?---Well, I think you have
strayed outside the bounds of my knowledge.

Okay. Are you aware that Professor Sweeting gave some evidence
in relation to the Kilmore fire that that fire would not
have been started if the auto reclose on the relevant line
had been suppressed?---I'm aware he gave that evidence,
yes.

Because the effect of that suppression would have been that
current would have flowed for only 1/18th of the time that
it in fact flowed. Are you aware of that evidence?---Yes,
I'm aware of the evidence.

Professor Sweeting also gave evidence that, in the context of
the energy released by electrical arcs, the time the
current flows is the critical factor in relation to the
energy released?---Yes.

In light of that evidence, it is clear, isn't it, that there is
a trade-off that has to be made between reliability of
supply on the one hand and risk to the community from
bushfires on the other; would you agree?---There is a
trade-off, so you have to analyse the risks on both sides
of that equation, yes.

Indeed. The risk on one side is the risk of catastrophic
bushfire. That's one side of the balance?---Yes.
The risk on the other side is that some people who might rely
upon electricity for certain purposes don't have that
electricity for a period of time?---Correct.

In the context of the Powercor network there was evidence given
earlier this week to the effect that generally speaking
the outage would be somewhere between one and three hours
and on the Powercor network, if one assumed that half of
the faults that occur on a high risk day are permanent
faults, you would disadvantage something in the region of
50,000 people over the course of a whole year for
somewhere between one and three hours. Now, somebody has
to make a judgment as to whether that kind of cost is an
acceptable price to pay in order to minimise the risk of
fire starts; do you agree with that?---Somebody has to
make the decision, yes. I agree with that.

That is really a decision that involves a public policy
judgment, isn't it?---Public policy or in some areas it
might be the community, but certainly - we did discuss
this last time I was here, as I recall, and certainly to
me it is not a decision that can be made on an ad hoc
basis. The community or people living in certain areas
need to know what the possible outcome is on a certain
day. You can't just have the situation where the power
gets turned off unnecessarily if they are relying on it
for information or water pumps or whatever.
We are not talking here about turning off the power. We are talking about increasing by some amount the prospect that power will be lost if a fault occurs?---Correct. Wouldn't it be both more certain to the community and fairer to the power companies for that judgment to be made, as to where the community's best interests lie, to be made by the government or by Energy Safe rather than by the power companies?---I mean I think that's part of the debate you have to have about is this going to be a centralised sort of decision, what sort of days is it going to be made on, is it going to be a code red type day, when is it going to happen, is it going to be on a local basis, but as you are suggesting is it within a set of guidelines that might ---

Mr Adams said this morning that these decisions are difficult decisions and then he said it's an easy decision if you are wearing your bushfire mitigation hat. It's a difficult decision for them because they are trading off the interests of their customers, but a government regulator can make that decision without that commercial difficulty weighing upon it, making a judgment as to where the public interest lies?---Perhaps some guidance should be given, but for a government regulator it is easy if you are talking about the whole of the state of Victoria. If you're talking about one individual line in the Dandenongs, then there is a lot of benefit I think in having that sort of decision made locally and with the people who are involved and who know that's what is going to be the likely outcome.

Thank you, Mr Gardner. Those are the matters, Commissioners.

<CROSS-EXAMINED BY MR ARMSTRONG>
Mr Gardner, you might remember me. My name is Armstrong.

I appear on behalf of a number of the victims of the various fires. I would like to ask you some questions, if I may, about some topics that Dr Donaghue has touched on with you and broadly under the heading of the relationship which ESV has had with the distribution businesses over the years. It is the case, isn't it, that it has been known for some considerable number of years, certainly since the early 2000s, that the electricity distribution system in Victoria broadly involves a significantly ageing asset system; is that correct?---That's correct, yes.

There is a distribution network that is getting older over time, there is no doubt about that.

From time to time over the period since 2000 issues have been raised by ESV regarding the adequacy of inspection and maintenance programs that are carried on by the distribution businesses in respect of their distribution assets?---Yes, I'm sure that's true.

Are you aware whether in about 2001 the predecessor organisation to the ESV initiated an audit of the line maintenance programs that were being operated by the distribution businesses at that time?---There's a number of audits. I'm just trying to think. There were certainly - at around that time there was a major audit conducted of regulatory compliance issues, one of which may have been line maintenance, but line maintenance wasn't the only feature of it.

Do you recall, Mr Gardner, whether one of the conclusions drawn from that audit was a conclusion that there were longstanding line maintenance and inspection issues which the distribution companies had not addressed?---I don't
recall. As I've indicated, I started in 2004, so the
wash-up of that was sort of really over before I got
there, other than things to do with line heights and
clearance distances from tram lines. Issues like that
were ongoing issues that I had to deal with.

In the period after you started with ESV in 2004 were there
follow-up audits or investigations undertaken by ESV
regarding such things as the policy of inspecting wooden
poles on a five year cycle rather than some earlier cycle,
some shorter cycle?---Well, there are follow-ups in terms
of the bushfire mitigation audits and the analysis of the
failure statistics and the processes and procedures that
were in place. So that's the audit process and follow-up
system that was used in relation to those sorts of issues.

Is it fair to say, Mr Gardner, that over the period since you
were working for ESV there was a concern within ESV as to
whether the five year inspection cycle was
appropriate?---Certainly before I got there I think that
concern existed. When I was there it still existed. The
issue for ESV, though, is that, on the basis of the data
that was available and the analysis that was being carried
out, there wasn't sufficient there for us to mount an
argument to say that it should change.

Is it the case, Mr Gardner, that when proposals were raised by
ESV that perhaps there should be a shift to an age based
asset replacement program rather than a condition or
inspection based program, the distribution companies
generally resisted that suggestion?---Certainly in the
discussion we had after the fires where we sought to sort
of re-open that discussion, it was generally resisted,
yes.
Before 2009, when that issue was raised, what was the company's response to suggestions that perhaps the five years is too long?---I am having trouble recalling specific instances of where I was involved in those discussions, but I certainly believe as part of that audit process those sorts of issues would come up every year in terms of the asset inspection cycles, particularly because, for example, one of the ones that was raised this morning, there were issues about the number of poles that were staked and the length of time between inspections for those. So it was an issue that would arise, but the businesses believed that there was no evidence to justify the change and that they had a process for poles that they didn't think would last the distance of having a shorter time span inspection.

Was it the case, Mr Gardner, that the basis of the electricity companies' response that they considered that they had adequate systems in place was, in essence, that the distribution companies were inspecting the assets and that the inspection process enabled them to maintain an acceptable level of risk, that problems were identified before they became defects and contributed to the risk of, for instance, bushfire starts?---That's correct. Certainly in relation to poles they would demonstrate evidence of being able to identify the end life of poles and the fact that they needed to be replaced before they fell over, for example.

Just on that question of the inspection process, the basis of justifying a five year cycle was that that was the length of time over which it could be reasonably confidently said that the pole itself, forget about the assets on the top
of the pole, but five years was about the length of time
that problems with a pole would develop and so - - -

DR DONAGHUE: I'm sorry to interrupt my friend, but there is a
level of repetition here and the Commission would have
gathered that we are under very great time constraints.
While we appreciate that some level of cross-examination
is required, there are some parties who have greater level
of interest in some witnesses than others. We still have
two to go and we are conscious that any time spent now is
eating into witnesses to be called later in the afternoon.

MR ARMSTRONG: Commissioners, I hear what my friend has to say.

CHAIRMAN: How long do you expect to be?

MR ARMSTRONG: About 10 minutes, Commissioner.

CHAIRMAN: Provided you contain it within 10 minutes, yes,
continue.

MR ARMSTRONG: If I can clarify for my learned friend Mr Rush,
I mean another 10 minutes, not another three minutes.
Mr Rush has just pointed out I have had seven.

CHAIRMAN: Keep going for the time being.

MR ARMSTRONG: Thank you, Commissioner. Mr Gardner, on the
question of inspection of conductors, if I could ask you
to focus on the question of conductors at the moment. It
is the case, isn't it, that it has been long recognised in
the industry that it is only possible to conduct an
adequate inspection of conductors from line height; do you
agree with that?---Adequate is - a quality inspection
I think you would need to conduct from line height, yes.

It is the case, isn't it, that there is no schedule or program
in place either within SP Ausnet or Powercor to schedule
pole top inspections for conductors other than inspections
which occur when there is pole top work being done for
other reasons?---I don't believe that's the case. I think there are some other pole top inspection programs using now cameras and so forth.

In the period prior to February 2009 the only time pole top inspections took place was when work needed to be done on a pole top asset. Are you able to say whether or not that's correct?---If you are talking about people getting in elevated platforms and getting up to line height, that's probably correct.

That's what I mean by a pole top inspection, that is line height, getting up in an elevated work platform?---For me pole top inspection means inspecting the pole top. You might do it with binoculars, cameras, helicopters, other systems.

Thank you. To clarify, it has been industry knowledge that you can only adequately inspect a conductor if you get up to the height of the conductor and look at it from conductor height; do you agree with that?---I'm not sure I agree with the "adequate", but certainly you get a better inspection if you get up there.

And there is no program for conductors to be inspected from line height other than inspections which occur if other work is being done that requires somebody to go up to the top of the pole?---I believe that's the case.

So it is the case that problems with conductors are only likely to be detected if the conductor is sufficiently damaged that the damage is visible from the ground---

DR DONAGHUE: Commissioners, I object again. This witness is the head of ESV. He should be being asked questions about the regulatory framework or whether or not they require different things to happen. If the questions are about
capacity to detect problems with assets, other witnesses have dealt with it and this witness is not the right witness.

CHAIRMAN: I think that's right, Mr Armstrong.

MR ARMSTRONG: Commissioner, I understand that. I am getting to a question that this witness can answer in relation to the justifications for the inspection procedures which have been put forward to ESV by the distribution companies. Now, if my friends would give me a moment to establish a few propositions with this witness, then I will deal with it, the bottom line.

CHAIRMAN: Yes, just be quick. I am getting troubled by the amount of time that has been taken in a situation where the other points of view - what you are tending to do is just fill in gaps and we just don't have a capacity to keep on taking that particular line.

MR ARMSTRONG: I understand, Commissioner.

CHAIRMAN: So prioritise. Prioritise.

MR ARMSTRONG: Mr Gardner, to the extent that the distribution companies have explained to ESV that their inspection based asset replacement program is adequate, the inspections have not included line height inspections of conductors in the absence of damage to the conductors, have they?---Well, I'm really picking up one of the points we made. I'm not sure I'm the person to answer that question. You are into a lot of detail.

Has ESV, in the course of approving the ESMS policies or the bushfire mitigation plans, made inquiries of the distribution companies regarding what is actually involved in the description of an inspection?---In the audit process, then that is the sort of issue that's covered.
That's why there is a follow-up audit being undertaken, because the question is: is the information that's available, can you make the judgments that are being made based on that information. So it is the sort of issue that is discussed and falls out of that audit and inspection process.

The questions that are being asked as part of the 2009 audit, an element of which is being displayed on the screen, are questions which were able to be asked five years ago, weren't they?---They were able to be asked five years ago. Whether there was the need based on what we were observing in the field or not would be the question.

Mr Gardner, ESV was being told by the distribution companies that there were inspections going on, but in fact the material that's come before this Commission shows that there was no preventative inspection of conductors on a routine basis. There was simply inspections that happened if there was another defect nearby. Do you agree with that?---No, I don't agree with that. There were inspections. You may be arguing that the inspections weren't at the level that they could have been at, they might not have been at the quality that you would have liked, but there were certainly still inspections of conductors going on.

It is the case, isn't it, that the inspections being conducted from ground level do not meet even the acknowledged industry requirements as to what a proper inspection of a conductor should be; that is, it can only be properly inspected from a work platform at line height?---I think we have already been over this.

Would you answer the question?
DR DONAGHUE: We have been over it. The witness has said he doesn't agree with the word that it can only be done in that way. He said a better inspection can be undertaken.

CHAIRMAN: I'm getting to the stage where I'm thinking the questions you are asking are not of any benefit to the Commission. If that continues, I will just have to ask you to sit down. If you have another topic to move to, proceed.

MR ARMSTRONG: Nothing further, Commissioner. Thank you.

<CROSS-EXAMINED BY MR GOETZ:

Mr Gardner, my name is Goetz and I appear with Mr Curtain on behalf of Powercor. I just have a couple of questions which I have prioritised. In relation to the audits, would I be correct in saying that a large amount of information flows to ESV from that process?---A very significant amount of information.

And contained in that information there would be information in relation to failures in service, and I'm talking about failures in the Powercor network; would that be fair?---That would be correct, yes.

Is part of ESV's task to analyse that material and perhaps pick up any trends that might be obvious?---It is part of Powercor's task, and our task, to analyse that and to debate it.

In the audit that we have been talking about, were trends picked up by you and conveyed to Powercor?---The trends in the in-service failures remain reasonably consistent and are at a relatively low level.

And the trends that were identified and at that low level, were explanations sought from Powercor on that topic?---They were.
And Powercor provided you with explanations in that
regard?---In terms of the in-service failures, yes.
The last question is this: Dr Donaghue asked you about some
perhaps increasing trends in rusting on tie wires. Did
you hear that question?---I did, yes.
How would you describe the health of the tie wires in the
Powercor network?---That was one of the issues that came
out of the audit that required follow-up, that there were
instances where the auditor's observations weren't
consistent with what had been recorded.
Am I correct in saying, this is the last question, that the
recommendation from ESV on that topic to Powercor was that
the way to address that issue of the rusting ties is for
there to be improved education of the inspectors?---That's
correct.
Thank you.

DR DONAGHUE: No re-examination. May Mr Gardner be excused.
CHAIRMAN: Yes. Thank you, Mr Gardner. You are excused.

<(THE WITNESS WITHDREW)

MR RUSH: Commissioners, I call Mr Gersh.
MR HORGAN: If the Commissioners please, I appear on behalf of
Electrix Pty Ltd, the employer of Mr Gersh, with leave.
My name is Horgan.
CHAIRMAN: Yes, thank you.

<PETER FRANK GERSH, affirmed and examined:
MR RUSH: Mr Gersh, your name is Peter Frank Gersh?---That's
correct.
You are the manager of Electrix activities as far as it
concerns the qualification and running of line inspector
courses and the implementation of their work?---I manage
the work that they do, yes.
You, with the assistance of solicitors to Electrix,

Clayton Utz, have prepared a statement for the giving of
evidence at the Royal Commission?—That's correct.

I think you want to make a change to the statement?—I do,
yes. In paragraph 8 there is a double mention to basic
first aid training, it's doubled, so I would like to
remove item (m), please.

Thank you. With that redaction, can you say the contents of
your statement are true and correct?—Yes, I can.

I tender the statement of Mr Gersh.

#EXHIBIT 561 - Witness statement of Peter Frank Gersh
(WIT.7527.001.0001).

MR RUSH: The asset inspectors with Electrix are required to
hold a certificate of competency. Who issues that?—It
is issued by the Gippsland TAFE.

Is the position this. I'm just going to ask you some pretty
general questions. A person will make application to
Electrix to become a line inspector?—Correct.

Then there is an initial training course?—Correct.

What you set out at paragraph 5 of your statement is the
modules that are required to be undertaken in the initial
training course?—That's correct.

Where are they and how are they undertaken?—They are
undertaken by a registered training authority on our
behalf.

Who is that?—That is—sorry.

I think you may refer to them later on?—As ETD, that's
correct.

Is that a matter of some form of classroom instruction and then
assessment?—It's more classroom instruction. It is in
relation to the industry, the Electrix and Powercor's
requirements for a person to be able to access their
assets, so it is predominantly based on the health and
safety aspects of being in the field.

Are people in the field when they are completing these
modules?---No.

After the completion of that initial course, is there then what
you describe as mentor training?---That's correct, yes.
We then send them out with another qualified inspector,
and that's basically a familiarisation process.

You refer to that at paragraph 7. How long will that mentoring
process go on for?---It is usually somewhere between two
and three months.

Then after that mentoring program, working beside someone
that's qualified, do the people come back in for a course
at Gippsland TAFE?---That's correct.

You set out at paragraph 8 the various modules that are
required to be completed?---That's correct.

At Gippsland TAFE?---That's correct.

And that, I take it, is conducted by Gippsland TAFE?---Yes, it
is.

At Chadstone?---That's correct.

Are you able to tell us how long in days that course
takes?---It is six days.

The instructors at Gippsland TAFE are registered as instructors
for this type of training?---That's correct, yes.

Then you say at paragraph 9 that after that course is conducted
there is a full competency assessment carried out by
Gippsland TAFE; in other words, a form of
examination?---That's right, and then they go out into the
field again.

You say they go out into the field with a field training module
booklet?---That's correct.

What is the idea behind that?---Basically just to give the practical experience of what's been taught in the classroom. So before the person is signed off as being fully competent, they are required to do a certain amount of on-site work.

Again, is that done in partnership with a qualified lines inspector?---Correct, yes, and he has a book that he works through with the trainee, and we call them a trainee at that stage. When he feels confident that he has fulfilled the practical requirements of that module, he will sign that off, so we work through the booklet.

Then once that's signed off is there a further step in the process where a certificate IV assessor and trainer will come in and make a further assessment?---That's correct.

What is the nature of that assessment?---It is an assessment based on observing the trainee in work. There is also a desktop, if you like a mini-exam, where the Powercor manual is used as an open book exercise. There are a number of questions asked and the trainee has to respond to those questions using the book as a reference.

After that process, is the book sent back to Gippsland TAFE?---Yes. After that, our certificate IV trainer writes a letter to the Gippsland TAFE with the book and with his assessment at the final stage of that practical process and then that's followed up with a certificate of competency from Gippsland TAFE.

Then your person is qualified for line inspection work and asset inspection work?---Qualified, yes.

But, as I understand the regime that is adopted by Electrix, that person doesn't work on his or her own?---No. We have
two-man parties.

What is the reason for that?---The prime reason was when we tendered for the contract back in 2007 there were some changes to the process and we proposed a two-man team to assist with the process of using pole cam, which is a camera on a stick, and also to reduce the manual tasks associated with asset inspection; there is a manual aspect of it of digging. So, we have noted since a reduction in manual handling issues. And also so that they can use one another as a sounding board, so if one or other of them have a question, they can confer.

So is one of the systems that Electrix uses for the inspection of pole tops the camera that is on a mast, in effect?---Yes, that's correct.

Are you able to indicate to the Commissioners how that compares with what used to be in place?---One of the longstanding issues associated with asset inspection was the assessment of the top face of cross-arms. Obviously the rot is on the top, not on the bottom. So, in an attempt to get a better assessment of that, the camera was developed, so we are now able to look at the top face of the cross-arm and therefore make a much better judgment as to what its condition is.

I will come back to that in a minute. If I can just ask you about what is shown on the screen at the moment at paragraph 12. Are there refresher training regimes in place where the line inspectors come back to undertake refresher courses?---That's correct, yes.

Are they done on a formal basis as in a requirement on a regular routine?---Some of those are governed by the industry standards and some are our own.
So over what period of time are people required to --
-?---Depending on the actual category, some of them are
done every 12 months, some every two years and some every
three years.

You then set out, Mr Gersh, the equipment that is provided to
your line inspectors. If I can go to paragraph 18. There
is an audit, is there, conducted on about a monthly basis
of line inspectors' work?---That's correct, yes.

Could you explain to the Commissioners the nature of that audit
and who conducts it?---It is conducted by our supervisors.
Each of our asset inspectors is categorised as A, B and C.
That's based on their experience and previous audit
results. So, on an A class inspector there are at least
two audits per month carried out, on a B there's three and
on a C there's four audits.

Is there an overall auditing process, an independent auditing
process that Powercor use to audit the work of
Electrix?---Correct, yes. They also audit our work, yes.

Is that done on a quarterly basis?---My understanding is it is
a process that they adopt to carry out those audits, yes.

Returning to paragraph 19 where you refer to the limitations on
visual inspection, you have spoken about the stick mounted
cameras as far as they might concern the cross-arms. What
about the pole top equipment or infrastructure
itself?---While it's an aid, the current resolution and
fixed nature of the camera that we have available at the
moment doesn't have the resolution to make detailed
assessments of things like conductor condition or ties.
We are at the moment developing a higher resolution
zooming facility that will improve that.

You may have heard just some of the examination of Mr Gardner
sensing that that pole top inspection and tie wire
inspection cannot be properly done unless one is on an
elevated platform. You, I take it, would agree with
that?---Not entirely, no. I think with the use of
stabilised binoculars and assuming that the conditions are
such, you can get a reasonable idea of the condition of
the conductor.

You are a person with an electrical engineering
background?---Correct.

And 35 years in the industry?---That's correct.

I just ask you to have a look at this, (SPN.006.001.0286).

Appreciating that's taken from an elevated platform, what
do you make of the condition of that pin
top insulator?---I would assess that as being
deteriorated.

So what would you anticipate an inspector would do?---I think
even from a ground level inspection I would expect an
inspector to note that as being deteriorated.

Part of what your lines inspectors are equipped with and
trained with is the asset inspection manual?---Correct.

I want to bring up this page on the manual, if you can keep
that photograph in mind, (WIT.7527.001.0199). There is
specific training, is there not, in relation to the
assessment and observation of that sort of pole top and
associated tie wires?---Yes.

While that document is coming up, in relation to steel tie
wires I will read this to you, Mr Gersh: "Tie looks rusty
on the insulator neck but no heavy rust stains on
insulator. No special hazard unless a mechanical factor
also involved." So here the photograph that you have seen
would not comply with that in the sense that there are the
heavy rust stains on the insulator?---That's correct.

It goes on, "Heavy dark red rust on the tie and insulator is substantially a result of vibration and not of simple unaided corrosion." From your experience that statement would also be correct?---I don't have a lot of experience in relation to analysing that, but I think that's a fair statement.

That's what your lines inspectors are trained to understand?---Correct.

"It is this action which will lead to the tie wearing away until it breaks. The dark red rust is produced, at least in part, by rubbing action on the steel. Steel ties can be broken by conductor pull, but they are generally so strong that breakage rarely takes place unless it has also worn away by vibration. Because vibration is the major contributor to tie breakage, it much more often occurs on the tightly strung long spans in open, flat country." So, your lines inspectors would be on the look-out for that sort of evidence of fatigued or rusting tie wires, particularly where it relates to long spans and particularly in relation to open country?---Correct.

That's the way they're trained?---That's true.

You mentioned that in relation to tie wires you are looking at methods or attempting to adopt methods to better the inspection of pole tops. Can you indicate what you are looking at?---We are basically looking at a much higher quality pole camera situation where we can get the resolution to have a much better look at it from actually at the pole top, and also from various angles. I think the other thing that we hope to put on that is a scale on the video output of that so we can actually be able to
measure the diameter and determine if there has been
significant reduction in the diameter of the tie. We are
not quite there yet, but we are not far away.
They are the matters, Commissioners.

<CROSS-EXAMINED BY MR TOBIN:

Mr Gersh, my name is Tobin and I appear on behalf of various
victims. Your inspections are in accordance with
the program that's been dictated to you by SP Ausnet and
by Energy Safe Victoria; is that correct?—No,
our procedures--
For Powercor, sorry?—Are Powercor based, that's correct.
You agree that the camera does not give you a capacity to get a
good viewing of the pole so as to look at a lot of
structures on the top of the pole?—It gives us a view
but I don't think it has a resolution to enable an
accurate assessment to be made.
You also in your guide or the handbook say that stabilised
binoculars do not permit you to view a number of areas of
possible fracture on the top of the pole?—We inspect the
pole top from four different positions, three being around
the outside and one from underneath. Stabilised
binoculars rely on you having a clear line of sight to
that particular spot you are looking at.
The manual says stabilised binoculars permit asset inspectors
to record a high percentage of broken ties but some breaks
will be at locations not visible from viewing
angles?—Correct.
So therefore there are a number of situations where there can
be breaks on the top of the pole top structure where your
inspection process cannot detect them?—Theoretically
that's correct.
And factually that's the situation too, isn't it?---I think if the tie wire is broken, it is fairly obvious from using stabilised binoculars.

On 7 February 2009 there were a lot of failures of assets of Powercor which were age-related failures, weren't there?---My understanding is that's right.

Those age-related failures can either be by reason of the system of inspection not enabling the viewing of it or there being a system where there were failures which inspection can never detect; is that correct?---In general speaking, yes, that's correct.

Could the witness be shown document (WIT.7005.001.0005). First of all, have you seen this document previously, which is a summary of the failures that occurred in the Powercor system on 7 February 2009?---No, I have not seen that before.

If that document shows that the majority of the failures were by asset deterioration, that is broken ties, corrosion and matters of that nature, would you agree that that indicates the inspection program doesn't enable sufficient information to be understood of the system?---Inspection program or the inspection process?

The process, in the sense that your company is doing everything according to what you are being told to do, is that correct?---That's correct.

To the extent that you have been audited and undergone review with Powercor, there has been no criticism by that company of your conduct over the last 12 months?---That's correct.

So if there are failures within the system, particularly failures from broken tie wires, corrosion and matters of that nature, it means the system of inspection that's in
place is a system which is not affording sufficient information to cause rectification?---Yes, that's true.

On Black Saturday we know that there were five fires caused by Powercor assets and many failures in those assets from corrosion and broken ties. To the extent that those matters occurred, you have not been subject to any criticism of not doing what you are expected to do on inspection; is that correct?---No, we haven't.

Insofar as the Remlaw powerline - are you familiar with that spur line, the Remlaw spur line?---I haven't seen it, no.

But familiar with what was observed there from time to time and the fact the fire came from a pole top structure falling at that level?---I am aware of that, yes.

The evidence before the Commission in relation to that is that there was a failure some two years prior to 7 February of a power top structure, a failure on the day of a power top structure and in inspection in July of 2009 three further pole tops had broken ties on them. Now, to that extent you haven't been criticised in relation to your inspection of that line; is that correct?---No, we haven't.

And the fact that there have been five failures in that line of approximately 15 active poles over a period of four years is not something that your inspection process was able to detect; is that correct?---I'm not sure if we inspected them within the period that you are saying, so I can't answer that.

Would it be correct to say that from your work as a company do you do any post-mortems of inspections to determine whether failures are occurring at a greater age with the age of the product?---Not specifically in any other area than pole failures. The failure of attachments or other
bits and pieces are beyond our capability, but we
certainly get very involved in the assessment of any pole
failure.

To the extent that there have been pole failures or other
failures within the system, you are aware that we have a
significantly deteriorating system with the age of the
system; would that be correct?---I'm aware that it is
getting older, yes.

Not only is it getting older, but the failure rate in relation
to poles between 1955 and 1970 is approximately
50 per cent higher than poles of other ages. Are you
aware of that type of statistic?---No, I'm not.

And of the ties being of a similar magnitude. Are you aware of
that type of statistic?---No, I'm not.

Could the witness be shown document (PAL.019.001.2355).

Firstly, have you ever previously seen this
document?---No, I haven't.

If I could summarise it to you, it is a document that
Mr Curtain put to Dr Gates the other day, but the document
shows on the left-hand side the year that the pole was
constructed and the left-hand side is SWER, the right-hand
side is all poles, and then the detection of faults by
comparison to the age of that pole. Have you seen that
document?---No, I haven't.

I won't put it to you, then, if you haven't seen it, because it
takes a little bit of time to understand. Thank you.

<CROSS-EXAMINED BY MR HORGAN:

Mr Gersh, Mr Tobin has just mentioned pole failure and Mr Rush
mentioned pole failure earlier this morning. In addition
to the developments that you have indicated in relation to
the mobile form of pole top camera, are there any steps
being taken in relation to pole failure?—Yes. There is a school of thought that the termite population is actually moving more southward and also that the testing that we do or the treatment that we do of poles around the ground level is actually forcing termites to go lower and therefore difficult to detect. So we are experimenting at the moment and hope to run some trials early next year of actually using dogs that have proved very effective in determining where termites are or not, so we have been talking to some dog trainers and we think that's a possibility.

In relation to the suggestions that have been made about needing a conductor level inspection of pole tops and hardware, what are the impediments to introducing human lifts and the like onto the positions where these poles are?—The main impediment is actually access. As we have heard, these poles are located in paddocks and all over the place, so it is very difficult to get at times large equipment in to actually do that.

Is it right that a high percentage of the lines are on private property?—That's correct, yes, particularly SWER lines.

Nothing further. May the witness be excused?

MR RUSH: Can the witness be excused, Commissioners.

CHAIRMAN: You are excused, Mr Gersh.

<(THE WITNESS WITHDREW)

MS NICHOLS: If the Commissioners please, I call Mr Maurice Braden.

<MAURICE KEVIN BRADEN, sworn and examined:

MS NICHOLS: Mr Braden, are you employed by Utility Asset Management?—I am.

Do you have two roles in that company? Since 2006 you have
managed the Telstra pole inspection contract for UAM?---That's right.

And you are also responsible for training asset inspectors together with one of your colleagues?---That's right.

Amongst other training, yes.

You have made a statement for the purposes of the Royal Commission in relation to the training of asset inspectors by UAM dated 24 November?---Yes.

Is that a true and correct statement?---Yes.

I tender that statement.

#EXHIBIT 562 - Statement of Maurice Kevin Braden (WIT.7531.001.0001).

MS NICHOLS: Mr Braden, is it correct that you first came to the electricity distribution industry in the year 2000?---That's right.

Prior to that you had worked with Telstra?---That's correct.

In 2000 for about six months you worked on and off with another asset inspector whilst as a labourer and trainee inspector whilst deciding whether or not you wanted to join the industry?---That's correct.

Your supervisor was a man by the name of Darren Forrester?---That's right.

After that in February 2001 you did a training course at UAM's head office?---Yes.

That was run by Mr Dennis Clarke?---That's correct.

And for how many days did that course run?---It ran for about three, I believe.

That was the first time that you had done any training in asset inspection?---Formal training, yes.

But before that the only introduction you had had to the electricity distribution business was your six months on
and off as a labourer and trainee inspector?---That's correct.

That course, as you explain in your statement, was with Mr Clarke, working through the line inspection manual?---That's right.

You say that the material in the course was really identical to the line inspection manual?---Pretty much, yes.

Darren Forrester, who was your supervisor when you worked as a labourer and trainee inspector, had also done the same course, hadn't he?---He has.

He was also taught by Dennis Clarke?---Correct.

We won't go to it but exhibit 2 is a letter from Mr Clarke explaining that you had both done that course?---Yes.

After that course you completed a three week period of supervised work?---That's right.

And then you were permitted, as far as UAM was concerned, to be qualified and to work on your own?---That's right.

In 2002 UAM won a contract with Ergon in Queensland?---That's right.

And you transferred to Queensland?---I did.

And for those purposes you did a two week training course?---That's right.

In relation to Ergon's procedures?---Yes.

Which were similar but in some respects different to the UAM procedures for SP Ausnet?---That's right.

So the two training courses you have done for electricity line inspection are the one with Dennis Clarke for three days and the two week training course with Ergon in Queensland?---That's right.

Your work as an asset inspector has been the following: You worked for one and a half years in Melbourne with
UAM?---North-east Victoria.
Then when you were transferred to Queensland you worked for Ergon for about 10 months?---For UAM on the Ergon contract, yes. That's correct. Since 2002, following that, you have really had operational roles, operations roles in the electricity distribution business?---That's right.
So, you worked in 2002 as the operations manager for UAM in Sydney?---Correct.
And in 2004 you went back to Scoresby where you supervised the contract for private electric lines?---That's right.
And in 2006 you commenced your current role supervising managing the Telstra contract?---Correct.
So in those roles you did not work as a line inspector yourself, did you?---Yes, I did, on and off. On and off?---Yes. I spend time in the field every year. But your main job is more of an operational role, isn't it?---Correct.
Meaning a management role?---Yes.
You have some training qualifications. You got a certificate IV in March 2006?---That's right.
And that's a training qualification rather than a technical qualification in the electricity distribution business or its assets?---Yes, Cert IV workplace trainer and assessor.
You have done some training for Ergon Energy and for AGL on behalf of UAM?---Yes.
And you also achieved a registration for workplace assessor training with the Industrial Safety and Environmental Services company?---That's correct.
UAM has since 2006 trained its asset inspectors internally?---That's correct.
You have done most of that training yourself?---Done the majority of it, yes.

Meaning that you run the classroom sessions?---Yes, that's right.

The content of that training is found in, to take SP Ausnet as a client, for example, the SP Ausnet line inspection manual and the UAM course outline?---That's right.

The course content, you say, closely follows the SP Ausnet line inspection manual?---Yes.

And for another client it would follow the relevant line inspection manual of that client?---That's right.

When you commenced training, the internal training on behalf of UAM of its inspectors, you did a review of the existing UAM course outline?---That's right.

And you say in your statement that you satisfied yourself that it was appropriate?---Yes.

Thereafter it became or it continued to be, for the courses that you have taught, the course outline for asset inspectors?---Yes.

So there was no-one else at UAM who checked or decided that that course outline was appropriate; you were the one responsible for that?---Well, in conjunction with Colin Gill, who has been in the electricity industry over 20 years, I suppose, and he was actually involved with the course.

But it was the two of you who work at UAM who decided that that course was appropriate?---That was the course outline and everything that was in place at the time and I didn't see any reason that it didn't fit, so, yes.

There was no external auditing or checking by a body or person other than UAM of the content of that course.
outline?---I believe that course outline had actually been presented to SP Ausnet and okayed.

You say in your statement that you have made some inquiries and you believe that the outline was sent to John Costolloe; is that right?---That's right.

And you have made those inquiries when?---I believe that that was the - Dennis Clarke and John Costolloe used to work hand-in-hand. But, since, I've been made aware that the training may come under some scrutiny.

So for the purposes of the Commission you made some inquiries about that?---Yes.

And you have been led to believe at least that the course outline was sent to John Costolloe?---That's correct.

But at the time you reviewed it in 2006 when you commenced to set up UAM's internal training program, you didn't have any communications with SP Ausnet about that course outline, did you?---No, I did not.

When you checked the course content and said that you were satisfied with it, how did you do that?---It was pretty much in line with, one, the manual and, two, pretty much the same material that Dennis Clarke delivered.

Had delivered to you?---Yes.

The structure of the training program, Mr Ying told the Commission last week that it comprised the following, and can you indicate whether you agree with this: that it involves five to six days of classroom training which is taught in modules?---No, three. The fourth day is usually the theory examination, so that's the classroom training.

So there are three days and then there is an examination?---Yes.

Then there is several weeks of in-field training by the
particular asset inspector with a qualified inspector?---Inspector or inspectors, yes.

Mr Ying indicated that that would be a period of at least eight weeks?---That would be roughly right, yes.

The asset inspectors with whom the newly graduated trainees train in the field for those number of weeks, they have done that same training course, presumably?---Yes, presumably.

Mr Leech, I'm sure you know Mr Leech?---Yes.

He has told the Commission that in his case he worked for a month with an inspector whilst deciding whether he liked the job and the job liked him. He then did a three day training course and an exam?---Yes.

You did his training?---Yes.

That consumed a period of about a month, he started with UAM in May 2006 and was permitted to work in June 2006; would that be right?---No, that wouldn't be right.

In what respect?---No, I'm not sure exactly of the start date, but he does that initial period with an inspector as a labourer/trainee, if you like. He then does the classroom training. He is then sent out with another inspector who he's mentored and he completes the training package. Then he goes ---

I think I missed out that he did a probationary period of two to three weeks?---I'm not sure of his actual start date, but he was presented to me as a candidate for the course and so I trained him. His start date I'm not exactly sure, but that's the order of how it goes.

Can I ask you about refresher training. It has been mentioned a few times, but can you tell me whether that involves a set syllabus or program?---Some of it is. Some of it,
like the first aid, manual handling, some of that stuff is on a 12 month basis, some two years, but the refresher training, the whole course isn't covered again, obviously, but selected parts of it are. That will be determined by some audit results or SP Ausnet may have some input into areas they want covered off.

Who teaches that?—SP Ausnet may present that. I have presented at some. Supervisors will present some of it. Auditors will present some of it.

So there is no formal program. It is just arranged from time to time as you go?—At least 12 months, once—

So once every 12 months?—At least every 12 months, unless there are some major changes or something new introduced into the process and then everyone gets called in and everyone gets trained on it.

So in the usual course it would be, say, a half day course once a year?—No, they are full days.

A full day course once a year?—Yes.

Can I ask you about Mr Leech's training. You trained him in June 2006?—That's correct.

Three months before that you'd received your certificate?—That's when the certificate was issued, yes.

When you delivered the classroom training, I take it that you stuck faithfully to the manual and the course outline?—Yes.

You say in your statement that Jason Leech had completed his initial training "and I was satisfied with the standard he had achieved in his training"?—That's correct.

What steps did you take to satisfy yourself about whether Mr Leech had satisfactorily completed his
training?---I was happy enough with the classroom stuff and the theory was fine.

Meaning what, he had attended those?---He had attended, he passed the theory tests and then he goes out, he completes the training package with an experienced inspector. Also on that training package was the auditor at the time and I was also out there as well, so my initials will appear on that somewhere.

I think they do. It is called the on-the-job training package?---That's exactly right.

I won't take you to it in the interests of time, but if the Commission wanted to know the matters on which he was tested, we should look at that document, is that right?---That's right.

Just a small matter. You have indicated in your statement that the competency certificate for Jason Leech was not signed. Was there any reason for that?---That would just be an oversight on my behalf.

You mention in your statement some matters about the helical termination about which there has been considerable evidence in the Commission?---That's correct.

I take it you have followed the evidence to some extent?---To some extent.

You describe it as an extremely uncommon fault?---Yes, I would. Accepting that for present purposes, would you agree, though, that that kind of equipment, the clevis and thimble assembly, is not the type of equipment that is uncommon; in other words, it appears across the network quite often?---It certainly does.

The problem with it, if one accepts some of the evidence that's been given in the Commission, is that it was not sitting
as it should have been in the thimble?---(Witness nods.)

Now, that kind of fault, you say had you detected that in the field you would have reported because it wasn't sitting as it should have been?---If I had have detected it, yes.

Despite the fact that you say it was an uncommon fault, it is the kind of fault, is it not, that can be generally described as the equipment or pole furniture not being properly aligned?---It may not have been sitting in the thimble, but it may well have still been straight. I mean it may not have distorted the conductor, or whatever, so there may be no sign to the inspector that that's out of it.

Just to generalise, that kind of fault is really about the equipment not being set up on the pole top in the way that it should be set up?---Yes. So it would be something out of the ordinary, yes.

You say that when you did your training it was never brought to your attention?---Certainly wasn't.

But you also agree that, now that it has been brought to your attention, it should be included in the training for your line inspectors?---Yes, I do.

And it will be included within SP Ausnet's training?---Yes.

You also say in your statement that a preformed wrap loop that had become derailed from the thimble might not be obvious to an inspector inspecting from ground level, particularly because it is an extremely uncommon fault and might not be readily visible?---That's right.

Do you agree that asset inspectors should be equipped and trained to do more than detect common or obvious faults?---Well, I believe that they are. It is a matter of fact whether they see them.
But you agree with that proposition, that they should be equipped to do that?---Yes.

They also should be equipped to know when components are not as they should be?---If it's going to affect the integrity of the line, yes.

So they should have sufficient experience and training in particular to equip them to make a judgment about when something isn't as it should be and might have an implication for the integrity of the line?---Possibly.

Well, it's not possibly, is it, Mr Braden? It is a necessity, isn't it, for asset inspectors to be able to detect when equipment is not sitting as it should be and may have an implication for the integrity of the line?---If it's not in the correct position.

Yes. Mr Barnbrook gave evidence last week that for an inspector to understand the significance of a fault of that kind, he or she would need training in the design and construction of the distribution network. What do you say to that?---One, he's got to see it. It's a defect, so we would put a defect in. I mean, there are more qualified people than the asset inspectors. That's why they have maintenance, technical assessors go after and they have EWP's. We can report defects.

But you would agree with this, wouldn't you, that the more training that an asset inspector has in the way in which the components of the network fit together and are constructed, the more likely it is that he is going to be in a position to detect a defect of that kind?---No, I believe the training is adequate to detect defects.

That kind of training would involve knowing what to look for?---We're looking for anything out of ordinary.
Yes, but being familiar enough with the way in which the components fit together to know when something isn't sitting as it should be?---If it's not sitting as it should be, that would be right.

And knowing the possible significance of a defect or a misalignment of components, having an understanding that it might cause a significant problem?---Well, I put a priority on it, so, yes.

Also, critically, being trained to carefully and methodically check all aspects of the pole top?---That's right.

Just on that, can I ask you about the inspection of conductors briefly. The SP Ausnet line inspection manual says that a duty of a line inspector is to regularly and methodically conduct detailed examinations of the distribution overhead system. You wouldn't disagree with that, would you?---No.

So, in terms of conductors, a detailed and methodical investigation would involve at least carefully scanning the conductor?---Yes.

From the ground?---With the image stabilised binoculars, yes.

Yes, and learning as much as was possible from the ground by taking a careful look at the conductor?---That's correct.

And also doing the same with every aspect of the pole top equipment?---That's right.

In relation to training about pole top infrastructure, you say in your statement that you train inspectors with regard to pole top hardware and structures in common use, including preformed wraps in accordance with the SP Ausnet line inspection manual?---That's correct.

What do you mean by "training with regard to pole top hardware"? What do you direct that training to?---All aspects of the pole top, so the pole itself, pole caps,
cross-arms, cross-arm braces, king bolts, insulators.

But you don't train in relation to all parts of the pole top infrastructure, only some; is that right?---No, all parts of the pole top.

Well, you didn't provide training at least to Mr Leech, I suggest, that enabled him to detect whether that particular matter should have been reported, the type of defect we have just discussed?---No, I believe had he seen that he would have reported it.

You say that the helical termination was not brought to your attention when you did your training?---Not that particular - - -

MR RAY: We object to that question. The fact is whether the specific reference is made to a clevis or a thimble or a helical wrap is one issue. My understanding is this witness has given very clear evidence that the training was sufficient to detect defects or departures or abnormalities, so it would be wrong to suggest that the training did not equip Mr Leech to detect such things.

MS NICHOLS: I will continue, Commissioners.

CHAIRMAN: I still think it is appropriate, even though its relevance may be very limited, to ask the question that was asked.

MS NICHOLS: Ultimately it is a matter for the Commission. But I will continue, Mr Braden. You say in your training that the helical termination was not brought to your attention?---No, the helical termination is, but the clevis and the thimble is not.

Yes, the clevis and thimble is not. I beg your pardon. So, given that it wasn't brought to your attention when you did your training, I suggest that when you conducted the
training which really required you to draw on your own experience and the SP Ausnet line manual, that you weren't in a position to draw your trainee's attention to that mechanism?---To that particular mechanism, but we would be able to draw him to a defect. If something's not right, if something's not sitting in something right, it's a defect.

So you train in the general concept that if something doesn't look as it usually looks, it should be reported?---Exactly.

But in terms of a deeper understanding of the way the particular components fit together, that mechanism wasn't something that you drew particular attention to?---That's correct.

I think you indicate that the manual that you are provided with for the relevant company is really the basis on which you design your training courses?---That's correct.

You also say that every manual provided by your different clients is different. Some are more detailed than others?---That's correct.

Mr Braden, what do you do if there is a gap or a defect in the material provided in the manual? Do you make an independent assessment of that before you decide to run your course on that basis?---If I believe there is a gap or there is not enough information in the manual, I will ask for some more information or clarification.

But by and large you teach according to the manual?---That's right.

Can I ask you to look briefly at this document, (WIT.7507.002.0029). This is an extract of your training course?---Correct.
Can I ask you to look at the conductor section, which is down the bottom of the page?---Yes.

The description there is, "Because conductors can deteriorate over the whole span, it is not practicable for your work to pick up much in the way of general deterioration."

Going down to the second dot point, "Steel is prone to single strands breaking and unwinding. We think this is lightning damage. It usually happens well out in the spans, so the best you can do is quickly scan along each span when you inspect the pole." Do you say that that latter part that I just read you is an appropriate instruction for trainee asset inspectors?---The word "quickly" is probably unfortunate, but they are all taught to look along the line with their binoculars.

The instruction that "The best you can do is quickly scan" is not consistent, is it, with methodically and carefully checking the line?---This is just an outline. It is a course outline. It is not an actual instruction on its own. The manual is the instruction.

The manual is not a how to instruction booklet, is it?---No. It doesn't instruct in methods. It just lays out what is expected to be done?---That's right.

You also gave evidence that the course comprised of the manual in this course outline. There is no other material to which we should look?---No.

No. Can I ask you to look just a little bit above that to the section on the same page, conductor ties?---Yes.

"Report any broken tie as priority 2. Often there are a couple of turns of the tie around the insulator neck still restraining the conductor from jumping out, so it is rarely urgent. Only if the conductor looks as if it is
free to jump out should it be reported for priority 1 or prompt action." Is that an appropriate instruction?---Yes, it is.

How is it that the inspector is going to make a judgment about whether it is urgent or not to report that tie on the basis of that instruction?---It clearly states there if the conductor is still restrained it's a priority 2.

The SP Ausnet manual, I don't need you to be taken to it, but it says this, and this is under the heading "Conductors and service cables, ties": "If the metal loss is approaching halfway through, change the tie." That's the instruction to the inspector in the manual. How is the inspector to make that determination on the basis of that instruction in that course outline?---Well, they're saying there normally two turns on the tie. We're saying if one's broken and the conductor is restrained, we will report it as a priority 2. Any more than that and it's a priority 1. The key to that is, is the conductor restrained, priority 2. If we don't believe it is restrained, it is a priority 1.

The inspection of tie wires and other aspects of pole furniture requires in some instances the line inspector to make a relatively sophisticated judgment, does it not, about the condition of the infrastructure?---Yes. The training should, ideally should, equip a line inspector to do so?---Yes.

But I suggest to you that, at least in relation to tie wires, that course is inadequate to do so. Can I ask you who trains your aerial inspectors?---I have no idea.

Can I ask you briefly about your auditing process. Mr Leech, as you may know, failed two audits, one in December 2006
and one in December 2008. Are you familiar with
that?---I'm not aware of that.

Let me ask you this: when an external audit, at least in the
case of SP Ausnet's contract, is received by UAM, you then
have your own auditors go and check that result; is that
right?---I believe that's the process.
And who does that at UAM?---That would be either Ian Brown or
Colin Gill.

What training do they have?---They are both qualified asset
inspectors.

They have done the same kind of course that you have
described?---I believe Ian Brown, and Col actually, did
theirs at ETTA, or now Gippsland TAFE, years ago.

Finally, because we are running out of time, your organisation
is not a registered training organisation, is it?---That's
correct.

Are you aware that the contract between UAM and SP Ausnet
requires all training to be provided by a registered
training organisation unless SP Ausnet specifically agrees
otherwise?---I'm not aware of that.

Are you aware of any communications with SP Ausnet in which
that's been discussed in relation to the courses that you
have taught?---I'm not aware, no.

Those are the matters, Commissioners.

<CROSS-EXAMINED BY MR TOBIN:

Mr Braden, my name is Tobin, appearing on behalf of various
victims. You in paragraphs 25 and 38 of your statement in
effect say that the course and training is approved by SP
Ausnet and they can also attend your refresher courses; is
that right?---That's correct.

And the inspections that you undertake are undertaken in
accordance with the SP Ausnet manual?---That's correct.
There is no specific training or mention in relation to thimble
and clevis defects?---That's correct.
It is for that reason that you say at paragraph 37 that you
could not expect a person trained as was Mr Leech to
detect that fault?---It may not be obvious.
If SP Ausnet specified a different regime or a different
quality of inspection or training, your company would
comply with that, would that be correct?---Correct.
They in fact dictate the training that your inspectors must
have and what they must inspect?---That's correct.
Finally, within your manual and within your training, is it
correct to say that there is no reference to inspection by
reference to age, span, vibration or risk profile of a
line; you inspect each line the same, irrespective of what
its profile may be?---Correct.

<CROSS-EXAMINED BY MR RAY:
Mr Braden, I suspect you know that I represent Utility Asset
Management?---Yes.
A couple of questions that I just want to put to you. You have
indicated in your statement at paragraph 10 that the
process of asset inspection in Queensland has some
differences. You highlight also that there are some
differences elsewhere, for example in the Integral Energy
manual. Those differences recognise separate local
conditions, don't they?---They do.
For example, in Queensland there are some specific issues about
termite infestation and rotting advancing quicker because
of the climate?---Yes. That's correct.
Similarly, as referred to elsewhere, there are different
demands and requirements in relation to the use of
different pole treatments?---That's right.

If we can move specifically - there is no need to go to it - but of course you have referred to an understanding that the SP Ausnet manual and the materials were being presented to the asset inspectors with the knowledge and authority of SP Ausnet. You know of course at the front of the manual there is a reference to the various authors with revisions of the manual?---That's correct.

You know Mr Clarke is referred to as an original author?---Yes.

And that subsequently Mr Costolloe's name appears in that same area?---That's right.

You refer at paragraph 29 of your statement as follows: "In 2006 Colin Gill and I trained three inspectors in Victoria for SP Ausnet. I also trained two in the ACT for ActewAGL. Gipps TAFE issued certificates for the two ActewAGL trainees that we trained." I suspect you don't know who signed those Gipps TAFE certificates?---I don't know whose signature is on the certificate, no.

You have not seen it?---No.

But was there, prior to that signing, a person from Gipps TAFE who attended and spoke to you and gained an understanding of the course content and what you were doing for the training?---Yes, there was.

That enabled that person to authorise the signature and therefore the endorsement of Gipps TAFE on the training package?---Yes.

Who was that person?---That was Mr Kelven Barnbrook.

I should indicate to the Commission that I did not know that last week when I cross-examined Mr Barnbrook. Otherwise, it would have been expressly put. So I apologise, but I didn't know.
Mr Barnbrook attended, he looked at your course content?---Looked at the course content. We sat in the Scoresby office for probably over an hour and we just went through the theory side of things and what we would present and what we wouldn't and we then went out into the field and we looked at the process out in the field, what sort of questions we would ask the trainees, and just made sure basically that we had ducks lined up in a row as far as paperwork and whatever for an asset inspection course. He understood what you embarked upon for the on-site inspection and the practical testing that was to occur?---Yes.

It was subsequent to that that Gipps TAFE authorised those two trainees that you trained?---Yes.

If we can move on from that, at paragraph 31 you confirm as follows, "Jason Leech completed his initial training at this time and I was satisfied with the standard." And you refer, of course, as you did earlier, to the certificate of completion not being signed?---Yes.

You refer to the On the Job Training Package. Perhaps to save time I can put it in a summary fashion without the document being brought up. The training package refers to 16 different on job training tasks; do you recall that?---That's correct.

And that many of those tasks are broken down into four separate occasions within each task; is that right?---That's right, yes.

It has been put previously that it seems a bit unusual that you have to get to task 15 before there is reference to conducting four pole top inspections. What do you say about that?---That's probably a little bit misleading. We do pole top inspections on every pole we inspect. The
16 points are just there to make sure we tick off on every one of those little aspects.

Let's understand this. For every inspection, and there are four sub-inspections for every task?---That's right.
Or usually. For every inspection there is a full pole top inspection, but what you do is to mark off specific and focus on separate tasks in different categories?---Correct.

So that you may have a test of upwards of work to be four by all of those, so you get up to about 64 poles that are part of that inspection. Now, there are also different initials that appear in those assessment tasks. Of course "MB" is you, I suspect?---That's correct.

Who is LW?---LW is Lyndon Walsh.
Who is he?---He is a qualified asset inspector. He was the mentor.

There is also a CMCQ. Who is that?---That's Cameron McQuillan.
Who is he?---He was the auditor at the time.
What is he doing now?---He is SP Ausnet's external auditor.
So the assessors and the external auditor who was then the internal auditor approved of and passed Jason Leech in the course of his study?---That's correct.

You confirm at paragraph 34 that you are "not aware of any industry knowledge which suggests that this", that is the failure to align the helical wrap on the thimble, that you have never had any industry knowledge that suggests that this has been a particular problem area?---That's correct.
You have not heard of a failure based on that misalignment?---That's correct.

It is clear that this has been brought to your attention?---Correct.
I think you have said previously, but if we can have some more
detail on it. Is it your intention to make sure that for
any training you do from this moment onwards you will
introduce this as a potential failure mechanism?---Yes,
given the light of the last - the events, yes.

That of course reflects what has occurred for some time, that
if you or auditors or SP Ausnet have other issues, they
are dynamically introduced into a changing syllabus to
meet the occasion?---Correct.

You at paragraph 36 confirm that inspectors are taught to look
for anything loose, broken, unravelled, deteriorated,
rusted or defective. It is under that broad heading that
you would describe, of course, the misalignment of the
helical wrap on the thimble as part of the clevis unit as
a defect?---Yes.

Could the witness be shown, first (VPO.001.039.0217), please,
the top photograph. Do you see there what has been
referred to us as a reconstruction of a single strand
that's unwrapped on a three strand conductor?---Yes.

Obviously you would regard that as a fault?---(Witness nods.)

What priority would you give that?---That would be a priority
1.

That would require therefore being rung in, if I could use that
term?---Yes, that would be an urgent defect.

Urgent, immediately on the day?---Yes.

You would expect that to be apparent without the aid of
binoculars?---That close to the pole, yes.

But you would also expect that, as part of an inspection, every
asset inspector would use binoculars at such a
point?---Yes.

Assume then that the curled piece of wire has, through wind
motion, vibration, whatever, has in fact broken off so you
have a three strand conductor reduced to two?---Yes.
You would expect the inspectors that you train to detect that
in an inspection at a pole top, wouldn't you?---Yes.
And you can see that because of the diminished size of the
conductor?---Yes.
Could the witness now be shown (VPO.001.039.0215). Do you see
before you a photograph which we understand is a
reconstruction of the helical termination that is
incorrectly sitting in the thimble. It is in relation to
that that you say, I think, at your paragraph 37 that it
might not be obvious. Why do you see that such a defect
may not be obvious to an asset inspector?---If that was on
the top side, the bottom side is going through, then you
just won't see it from the ground.
If, as you said earlier, it had been seen, though, it clearly
should be reported?---Yes.
If you as an asset inspector saw that, what priority would you
give it?---I would give it a priority 2. I mean, the
conductor is still restrained. As long as all those pins,
W clips on the insulators were in place. If it is
restrained, it is a priority 2.
So that would then be relayed to the asset owner, in this
circumstance SP Ausnet?---Yes.
And the category that you give it or an asset inspector gives
it is then subject to review back at SP Ausnet?---That's
right.
So they may well observe that and disagree, if it was
seen?---That's right.
It was put to you by counsel assisting a short time ago that of
course, as reflected in your statement, that the manuals
of Ergon, Integral, Telstra and ActewAGL do not contain a
description or reference to a clevis and thimble assembly
defect?---That's correct.

Is it however, true, that inspectors who attend your training
course have an understanding and a knowledge of, for
example, that helical termination unit?---Yes.

So it doesn't come as a surprise to them that that's the way of
mounting the helical wrap holding onto a conductor?---No.

So they are familiar with the unit but not some of the
terminology?---No, not some of the terminology.

Nor the mechanism of failure that has been discussed in the
last week or so?---No.

Again, some issues were put to you in relation to the course
outline. The term used in relation to the course outline,
and this appears at (WIT.7507.002.0029), which is the
conductor ties page that was previously displayed. Do you
see there under the heading of "Conductors", the third
bullet point that counsel assisting put questions to you
in relation to?---Yes.

"Steel is prone to single strands breaking and
unwinding"?---Yes.

And then the quote, "So the best you can do is quickly scan
along." It was put to you that that was not a good
instruction or an adequate instruction to an asset
inspector. Have you ever actually put that as an
instruction to an asset inspector?---No.

Did the people in 2006, that is the trainees in 2006, actually
receive the course outline as learning material?---No.

Have they since?---It is readily available, but they didn't at
the time. They do now. We include all our overhead
slides as hard copies and everything to do with the course
goes into a folder and they receive it now.

So what instruction do you give about the way in which asset inspectors should look at the conductor as they visually look along the line moving away from the pole?---They should scan the whole length of the span with their image stabilised binoculars. If they don't get the whole span from one pole, they get the other half from the next pole. So you certainly would not encourage such a process to be described as, "The best you can do is have a quick scan along"?---No, probably unfortunate use of word.

Yes, and hopefully might be changed soon?---I would say so.

It might be helpful if the outline that's predominantly for your purposes was changed to reflect that which was actually taught?---Yes.

But, in any event. Do you say to these Commissioners that your training is and was a proper basis for asset inspectors to understand the task that they had to embark upon?---Yes.

You teach known faults and known mechanisms of failure and those faults are faults, of course, that relate to the pole integrity and the integrity of the conductors and insulators?---That's right.

You agree, don't you, that it is useful to receive information such as this about a known mechanism of failure that can be added to the course syllabus?---Yes, certainly is.

You can then better prepare your trainees for the sort of work that they are then about to embark upon?---Sure.

Just finally, could the witness be shown (WIT.7507.002.0080). While that's being brought up, the asset inspectors are assisted to understand the PDE worksheets that they are going to utilise when they are out in the field, aren't they?---Yes.
Would you look at that document in front of you. Do you see at
the top of the page there is a description of the item
that appears in the column below it?---Yes.
That is, on the left-hand side under "Plant description" you
have "Stock"?---Yes.
And underneath "Stock" it lists the hardware that the
inspectors are entitled to expect when they visit a
particular pole?---That's correct.
Along from that there is a map reference number?---Yes.
And along from that there is a maintenance reference, isn't
there?---Yes.
So that if one saw a defect as such, that's where you would
record it?---Yes, that's right.
Would you look down to the second bottom entry and it is the
entry we understand that relates to pole 39. Do you see
that?---Yes.
You see that there is reference to Pentadeen pole 39 at
Glenburnie?---Yes.
And in type there is reference to the stock that the inspector
would expect to appear at the scene?---Correct.
And that refers to what? Can you see that?---Yes, "One by
insulator brown pin, two by guys ground", and he has added
in there "four by insulator grey disc".
Yes. That reference to different stock, as a person accustomed
to asset inspection, does that give you comfort that of
course that pole was attended and was the subject of an
appropriate inspection to refer to that difference?---Yes.
Would you expect a properly trained inspector to not only note
the difference but, because there was a difference,
closely inspect the asset at the top of the pole?---Yes.
Because, if it is different, it may well be that the asset is
loose in some way or not properly adjusted?---Correct.
So you would expect that to occur?---I would expect that to occur at every pole.
Thank you. They are the matters.

<RE-EXAMINED BY MS NICHOLS:
Two very brief matters. Can you have a look at the sheet which is on the screen in front of you. You will see on that page that on approximately half of the entries on that PDE workshop there is the handwritten entry of Mr Leach making a change to the record of what the assets are. For example, with the second last entry that you were taken to, there was a notation that there was one insulator and the handwritten entry is four insulators?---That's right.
Do you have any explanation for why it is that on a significant number of entries on that page, and I can tell you that they appear throughout that PDE worksheet, that the record of what assets are there is different from the starting point which is on the PDE worksheet?---That area may have been, when it was inspected before, sometimes there wasn't a requirement to pick up, say, grey discs or whatever, so the utility will change their mind sometimes as to what they want to pick up as stock.
So might it be that the base records on which that inspection was being done were out of date?---Well, they didn't reflect the grey disc insulators, that's correct.
And might it be that an inspection hadn't been done for some time? Can't say?---I can't say.
One more matter. You told your counsel before that you did not hand out the course outline. However, Mr Leach says in his statement prepared by UAM's lawyers for this Commission that he did receive the very course outline we
were looking at before, and you have no reason to be able
to contradict that, do you?---No. There's plenty of them
copies around. It is not a controlled or protected
document.

Nothing further, Commissioners. May Mr Braden be excused?

CHAIRMAN: Yes. Thank you, Mr Braden, you are excused.

<(THE WITNESS WITHDREW)

MS NICHOLS: There are no further witnesses today,

Commissioners.

COMMISSIONER McLEOD: Congratulations.

CHAIRMAN: We will adjourn now until 9.30 on Monday.

MS NICHOLS: In the annex.

CHAIRMAN: In the annex, yes.

ADJOURNED UNTIL MONDAY, 30 NOVEMBER 2009 AT 9.30 AM

.Bushfires Royal Commission
BY MS NICHOLS