
TRANSCRIPT OF PROCEEDINGS

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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

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

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

13 <ALLAN FRANCIS MONTI, recalled:

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

1 active volunteers, figures that are now familiar to you
2 from the evidence we heard yesterday?---They are, yes,
3 thank you.

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

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

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

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

22 The final matter that I want to take you to in relation to
23 training concerns the broader issue that you have raised,
24 which is that there is a need for flexible and
25 volunteer-focused training. As you say in paragraph 41,
26 this is not yet been adequately addressed. I think you
27 were in the hearing room yesterday when Mr Haynes gave
28 evidence that in an integrated fire service, if the CFA
29 doesn't accommodate its volunteers' training, then it
30 won't survive as an organisation. I take it you agree
31 with that as a general proposition?---Yes.

1 Do you also accept at a general level that the CFA, as
2 described by Mr Haynes, does go to considerable lengths to
3 accommodate volunteers in terms of training on weekends,
4 out of hours and the other ways which were described by
5 Mr Haynes yesterday?---I couldn't agree wholeheartedly
6 with that statement, no.

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

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

22 Please do?---With my experience, my professional career largely
23 through my working life has been in education and training
24 and significantly with instructional design and
25 understanding how adults embrace training and uptake
26 training. We are working with a field within CFA where we
27 are imposing training regimes on people that need to
28 access that training in numerous ways. They learn in
29 different ways; many are tactile learners, many are
30 cognitive learners. I think it was brought in evidence
31 yesterday that we have changing generations of volunteers,

1 volunteers that potentially buy in for only short periods.
2 We need to address that. CFA needs to address their
3 opportunities to deliver training in a number of different
4 ways. Their primary method of delivering training is
5 face-to-face, what I would call from my past experience
6 chalk and talk, people sitting in a room being delivered
7 masses of information and then sitting down to a written
8 examination thereafter, which ultimately is a memory test.
9 CFA to some of their credit have dabbled with off-site
10 training, on-line training, flexible delivery, off-campus
11 training, but it has been very minimal and when we look at
12 the span and geographic location of our volunteers, that
13 would be a significant incentive for volunteers to take up
14 training, particularly at some of these higher level
15 courses, if there was some different methodologies
16 applied. By and large, their training methodology is come
17 to a training course, travel many miles, sit down, be
18 talked at, spoken to, whatever you want to do, do the
19 examination and go home. Now, that's a disincentive and
20 if we are looking for people to take up the challenge and
21 they are willing to do the challenge and have masses of
22 experience to do that challenge, then they need to be
23 embraced in different ways. My further experience in
24 training was with the Defence Force and they exemplify
25 that method of using distance learning, off-campus
26 learning, to deliver the training to their people where
27 they are. I think CFA could learn a lot from looking
28 outside their own boundaries as to how to deliver
29 training. The second point - - -

30 COMMISSIONER PASCOE: Can I just interrupt you there. I want
31 to clarify, when you make the critique, are you taking

1 into account the hands-on training that's delivered at the
2 brigade level? Are you factoring that into your
3 assessment?---Yes. Even within that, Commissioner, the
4 elements of training are really set in the 80s, if I might
5 be so bold. When I began my training career, the
6 predominant method was chalk and talk and everyone would
7 come along and do their thing. We are still not to the
8 point where people can access it at a time and place of
9 convenience, particularly volunteers, who need to be able
10 to grab those moments we talked about yesterday.
11 Even at brigade level?---Even at brigade level there is an
12 opportunity. Really, because of the way training
13 materials are often developed and the delivery modes are
14 instigated, there is no choice. You turn up; if you are
15 not available, you miss out and then you wait for the next
16 opportunity. So there is a huge opportunity to embrace
17 those elements of training that are, if you like, the
18 theoretical, the underpinning knowledge that people need.
19 Obviously to do the practical or the scenario-based or the
20 computer-based training, there are other options there as
21 well, but certainly in this modern age - and many
22 organisations are trying these different methods. Number
23 one it's difficult, number two it's more costly - - -
24 I'm sorry, I am very conscious we have severe time
25 constraints?---I'm on my passionate area here.
26 I, too, am from an educational background so I share the
27 passion. But I just also want to put to you that
28 Mr Haynes yesterday talked about some inconsistency in
29 various areas across the state which the CFA are looking
30 to address. And I'm minded of the evidence of a Mr Bill
31 Speirs, who was a volunteer CFA firefighter for many years

1 and has moved into becoming a wildfire instructor, and he
2 gave evidence of engaging people and the result being that
3 they embraced and enjoyed the learning. That was from the
4 western part of the state?---Sure.

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

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

1 attend and that means the rest of the courses are mid-week
2 or business hours.

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

6 <CROSS-EXAMINED BY MR LIVERMORE:

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

10 I think you have probably been told by your counsel that
11 I intended to ask you about the estimate you gave at
12 paragraph 31 of your statement about 18 CFA endorsed level
13 3 incident controllers within a 50 kilometre radius of the
14 Kilmore fire ICC. Can I say at the outset that it is
15 certainly our position that it would have been far
16 preferable had a level 3 incident controller got to the
17 Kilmore ICC more quickly than Mr Kreltszheim. But in
18 relation to your estimate of 18, our analysis demonstrates
19 that on the day there were only two authorised level 3
20 incident controllers within 50 kilometres of Kilmore ICC.
21 They were Mr Peter Creak, who was occupied at the Seymour
22 RECC, and Mr Bob Potts, who had been rostered on the IMT
23 roster as a safety officer for the day before the 7th but
24 not rostered as available to fill an IMT role on the 7th.
25 They were the only two within 50 kilometres. Do you have
26 any material to dispute that analysis?---No. The
27 analysis, as I gave evidence yesterday, was based on the
28 fact that, in any form of preplanning for a substantial
29 fire event day like 7 February, a simple exercise of
30 identifying from the human resource plan who potentially
31 was available within that geographic area is quite a

1 simple process. You look at the human resource plan, you
2 look at the location of the incident control centre. In a
3 preplanning mode one would expect that the people
4 preplanning that ICC would have made those necessary
5 arrangements. We have no understanding of where those
6 people were actually tasked on the day. Our analysis was
7 done really on the basis of what potentially could have
8 been if enough preplanning had have been done.

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

20 The question is it is a very small percentage of those total
21 60,000 volunteers that have the desire, as Mr Small does,
22 to proceed to the higher level management
23 positions?---I would not agree. I would suggest that
24 there are disincentives for people to take up the
25 challenge.

26 You make it clear at paragraph 14 of your statement that the
27 CFA does a great job, and then you note that there is
28 always room for improvement. Then at paragraph 18 you
29 list three matters that need to be addressed;
30 acknowledgment, accessibility to training opportunities
31 and universal recognition. Can I suggest to you that the

1 correspondence that's been tendered as part of exhibit
2 549, namely Mr Rees' memo of August 2007 and his letter to
3 the South Australian Coroner of January 2008, are at least
4 a start in terms of the acknowledgment of the contribution
5 made by volunteers in Victoria?---The letter is certainly
6 welcomed. It is one element, within a consultation with
7 CFA over many years, of recognising the value and
8 utilising that resource. We would maintain that this
9 letter was an indication to their senior operations people
10 to consider ways in which volunteers could be better
11 utilised. I don't yet see great evidence of that being
12 undertaken. It was certainly a suggestion, not a
13 directive.

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

19 <CROSS-EXAMINED BY MR TRAGARDH:

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

23 Good morning. In relation to the figure of the 30,000
24 approximate operational staff that we were just talking
25 about in relation to your statement where you initially
26 said it was one in 6,000 volunteers were trained up to
27 level 3 incident controller capacity, you are not
28 suggesting, are you, that that 30,000 comprises a whole
29 body of people who are intending or would expect that they
30 might be trained to that level?---No. Within any level
31 and certainly within that number of people there is a

1 whole range of skills and abilities. We maintain that in
2 such a large pool there should by rights be a higher
3 percentage, you would expect, under normal circumstances,
4 that could take up that level of responsibility given the
5 opportunity.

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

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

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

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

29 Are you aware that during the term of the EBAs that there are
30 regular consultation methods in place between the two
31 organisations regarding matters such as training?---Again,

1 we are not part of that and we have no knowledge of that.
2 The CFA board signs off on the EBAs, don't they?---I imagine
3 so. I don't belong to the CFA board.

4 But the Volunteer Fire Brigades of Victoria occupy four seats
5 on the CFA board, don't they?---That's correct.

6 Thank you very much.

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

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

11 <(THE WITNESS WITHDREW)

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

14 CHAIRMAN: Yes.

15 MR ROZEN: Firstly, there is a bundle of documents which fall
16 under the banner of the Fire Agencies Improvement
17 Initiative. It is a process which took place in I think
18 1997/1998. It was referred to by Mr Haynes. There are
19 three references that I would read out and ask to be
20 included in an exhibit. The first is
21 (DSE.0179.1445.0001). The second group of documents start
22 at (DSE.0179.1445.0058). The third, the final report of
23 the project, is at (CFA.001.031.0099).

24 CHAIRMAN: Is that all for that exhibit?

25 MR ROZEN: Yes.

26 #EXHIBIT 554 - CFA and NRE - Performing better together -
27 Initiatives for the 1997-98 summer and beyond
28 (DSE.0179.1445.0001) to (DSE.0179.1445.0004). 1997/98 -
29 Multi Agency Incident Management - NRE/CFA Agreement,
30 dated 14 November 1997 (DSE.0179.1445.0058) to
31 (DSE.0179.1445.0065). FAII Project Final Report -

1 September 1997 (CFA.001.031.0099) to (CFA.001.031.0414).

2 MR ROZEN: There are three matters to tender to complete the

3 evidence in respect of the Murrindindi fire. The first is

4 a statement of Bruce Ackerman, which is at

5 (VPO.001.034.0294). The second is a statement of Gary

6 John Creighton, (VPO.001.040.0177). The third is a

7 document that's been prepared, as we understand it, by the

8 Bureau of Meteorology entitled "AGS fireground weather

9 reports prepared by the Bureau." That commences at

10 (BOM.901.0001) and consists of an analysis of weather

11 aspects of the fires arranged as per fire.

12 #EXHIBIT 555 - Witness statement of Bruce Murdoch Ackerman

13 dated 12 March 2009 (VPO.001.034.0294) to

14 (VPO.001.034.0306).

15 #EXHIBIT 556 - Witness statement of Gary John Creighton dated

16 27 October 2009 (VPO.001.040.0177) to (VPO.001.040.0190).

17 #EXHIBIT 557 - Meteorological Aspects of the Churchill Fire on

18 7 February 2009 (BOM.901.0001) to (BOM.901.0047).

19 MR ROZEN: If the Commission pleases, that concludes the

20 examination of the systemic matters that was commenced

21 yesterday morning.

22 CHAIRMAN: Yes. Thank you, Mr Rozen.

23 MR RUSH: Commissioners, I call Mr Adams.

24 <PAUL JOHN ADAMS, sworn and examined:

25 CHAIRMAN: Take a seat, Mr Adams. Make yourself as comfortable

26 as you can between the microphones and then ignore them.

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

28 correct.

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

30 correct.

31 Jemena is a wholly owned subsidiary of SP Ausnet?---No.

1 Of Singapore Electric?---It is a wholly owned subsidiary of
2 Singapore Power International, which is wholly owned by
3 Singapore Power.

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

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

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

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

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

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

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

23 I tender the statement of Mr Adams with its attachments.

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

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

29 And broken up into zones that are important in relation to the
30 distribution and supply of electricity for that
31 area?---(Witness nods.)

1 The evidence, Mr Adams, before the Royal Commission and
2 materials in the Victorian State Government Green Paper is
3 that the impact of climate change will increase average
4 annual temperature, increase the frequency of drought, we
5 can expect more extreme temperature days and an increase
6 associated with wind speed. That scenario, you would
7 agree, carries with it an increased risk of electrical
8 fires?---I don't know if it carries an increased risk of
9 electrical fires. It carries an increased risk to the
10 electricity network, yes.

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

17 Mr Adams, during your time particularly with SP Ausnet, were
18 you made aware of a Powercor position paper of 26 April
19 2005 whereby Powercor indicated to the Essential Services
20 Commission in Victoria it had an obligation to investigate
21 the benefits associated with the undergrounding of
22 electricity wires and cables, conductors, in high bushfire
23 risk areas?---I'm not aware of that particular paper, no.

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

30 In the paper that has been put before the Commission, Powercor
31 noted research that they had undertaken that indicated

1 there was broad community support in those areas for the
2 undergrounding of power cables, that small business
3 supported it, most residential personnel who were surveyed
4 supported it and people were prepared to pay an increase
5 in the cost of electricity, power supply, to get
6 undergrounding of cabling in those high bushfire areas.
7 Would that be something that your company would
8 support?---My company being Jemena, or which company are
9 you referring to?

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

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

22 Rush?---Mr Rush. If I may, in I think it was the 2006
23 electricity price determination, the SP Ausnet assets -
24 I think they were called that back then or they might have
25 been TXU, there was a change of ownership - put a
26 submission to the Essential Services Commission requesting
27 that an area of the Dandenongs be undergrounded. In that
28 submission there was the fact that it would reduce the
29 fire risk, it would also reduce the number of impacts or
30 improve the reliability because there are quite
31 significant mountain ash around that area, and also in the

1 areas that were selected it would improve the aesthetic
2 appearance because one has to trim vegetation around and
3 that's a major tourist area for the state. We worked with
4 the local council, the government, the community and put
5 forward a proposition I think in the order of around
6 \$30 million to underground that for those reasons. It was
7 knocked back on the basis that the terms in the regulation
8 are least cost technically acceptable solution and the
9 least cost solution is overhead powerlines. So, in
10 relation to Powercor, I'm not aware of that document, but
11 I am aware of other opportunities and efforts to try and
12 have some of this work done.

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

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

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

29 The basis of requiring a private property owner, a farmer, for
30 example, to run his electricity from an SP Ausnet asset to
31 his house or his machinery shed or the like, the basis of

1 that is that it is in need of substantial
2 reconstruction?---Yes.

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

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

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

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

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

23 Firstly, if I can ask you, I think you have set it out in your
24 statement, but at 0093 in the first paragraph it is put
25 that SP Ausnet operates 41,000 kilometres of overhead
26 distribution network, 600,000 customers, and it sets out
27 that there are 31,000 kilometres of high voltage, of which
28 20 per cent is SWER, and approximately 10,000 kilometres
29 of low voltage?---I can see that, yes.

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

1 calculate that.

2 It would be fair to say, would it not, if we go on to 0093,
3 second paragraph, it talks about "Current conductor
4 failures due to deterioration average 47 per annum" and it
5 sets out, "The primary issue facing SP Ausnet is the
6 increasing age profile and deteriorating performance
7 (2 per cent per annum) of steel and copper conductor
8 through failure, primarily in the eastern network.
9 Economic analysis of conductor failures indicates, for
10 selected feeders, that it is prudent up to the end of
11 2015" for a replacement strategy of 1770 route kilometres
12 of steel and 280 route kilometres of copper?---Yes.

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

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

20 At 0099, in relation to conductor failure, below that graph and
21 above figure 5 it is noted that, "The significant majority
22 of failures also appear to be high voltage conductors
23 which combine to present considerable risk to the business
24 from a public safety and bushfire perspective." Then it
25 sets out that it can be expected that there will be an
26 increase, "a slow linear increase in the number of
27 conductor failures of the order of 2 per cent per annum."
28 So that's something that is understood and recognised by
29 SP Ausnet in relation to particularly its steel and copper
30 conductors?---I'm not sure it is saying "will continue".
31 I think it is saying "has". The data there is showing

1 from 2 to 7.

2 What the statement says is that, "Analysis of failures
3 indicates the rate of failure is demonstrating a slow
4 linear increase in the order of 2 per cent per
5 annum"?---Yes. I think the way I interpret that is the
6 rate of failure "has demonstrated".

7 Has demonstrated?---Yes.

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

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

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

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

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

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

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

27 What is your understanding?---My understanding is that there is
28 an asset management plan in place that, due to the asset
29 age profile, the assets are becoming older across the
30 whole of Australia, from Queensland, New South Wales,
31 Victoria. This is not an SP Ausnet issue. If I refer to

1 the recent New South Wales electricity businesses, on
2 average they spend somewhere in the 4 to \$5 billion over
3 five years. Over the next five years the regulator has
4 approved \$13 billion of spend because of replacing ageing
5 and old infrastructure. Over the next few weeks the
6 Victorian businesses will be lodging their price
7 submissions, and my understanding in those price
8 submissions is there will be significant, in the order of
9 40 to 60 per cent, increases in the required capital spend
10 to replace ageing assets. So there is an asset management
11 plan and strategy that goes out for 20 years and it looks
12 at replacing aged assets on the basis of forecast
13 condition. I think that's what this document is trying to
14 say.

15 If we go to 0105, page 17, there are a number of figures there.

16 I will come to those figures and graphs later, but if you
17 look at the paragraph above figure 14, and this at least
18 was printed in October 2008, it states, "Using the age
19 profiles for steel and copper conductor indicated in
20 figure 14 provides an indication that, in the absence of
21 planned conductor replacement programs, failure rates may
22 begin to increase at an exponential rate due to the
23 increasing proportion of conductor fleet approaching
24 current failure age ranges"?---Yes.

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

28 You can't tell the Commissioners the approximate age of a steel
29 or copper conductor when it would be expected to fall into
30 what is described in this document as a "current failure
31 age range"?---No, it's not my area of expertise. I don't

1 know that level of detail. There is an engineering assets
2 group that does this. From what I can see from the
3 profile, there are conductors that have been inspected and
4 are in the age of 80 years for copper and that's because
5 they were put in 80 years ago. The steel conductors,
6 there are some out there that are, if I can read this
7 correctly, 60 to 70 years old that have been inspected and
8 found to be in suitable condition. So I would only be
9 speculating if I provided the Commission with that answer.

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

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

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

23 That, I suggest, is what is being referred to when we talk
24 about "current failure age range", that beyond 40 to
25 50 years you are starting to get into the age when you can
26 anticipate increases in the failure rate of
27 conductors?---I'm not sure of 40 to 50 years, but they are
28 becoming old assets.

29 If we go to the adjacent analysis of the copper conductors,
30 what we are seeing there again is an even older
31 infrastructure in relation to copper?---Yes.

1 If we can go to page 107 of this document and the conclusion in
2 relation to conductors, this may assist you under the
3 heading "Conclusion" at the bottom of the page: "Steel and
4 copper conductors are demonstrating end of life
5 characteristics." Is that familiar, something you are
6 familiar with? You were the distribution manager, were you
7 not?---Yes.

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

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

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

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

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

30 With its wooden pole infrastructure?---I'm unsure of the
31 question, I'm sorry.

1 Are you aware in 2009 that SP Ausnet, I suggest, appreciated
2 that 169 kilometres of replacement of copper conductor was
3 not adequate and identified a much larger estimate that
4 had to be replaced of copper wires?---If there is a
5 document, I'm happy to look at it.

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

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

28 COMMISSIONER PASCOE: Mr Adams, does that take account of the
29 likely consequences of failure?---Yes, that's my
30 understanding of the analysis, is to determine - from a
31 reliability perspective there is a thing called a bathtub

1 curve you may have heard of. Normally when something is
2 installed you have a lot of faults and then it tends to
3 last for a significant period of time and then start to
4 trend up. So, the engineering analysis is trying to
5 detect these faults and this trend, forecast that forward
6 over a period of time, and then try to have those
7 replacement programs to manage all those from transformers
8 to conductors. I think the basis here is that one needs
9 to go to the next level of sophistication because if one
10 had a car and on average cars last for 10 years, but some
11 cars will last, if they are a taxi, for three, and some
12 will last, if you know what you're looking at, you can
13 say, "If I just replace this bit or do that" you can have
14 your car last for 30 years. It is an obligation on the
15 business to have that sophistication to do the condition
16 monitoring and to make sure that these assets last as long
17 as practicable within a range of risk tolerance. That's
18 my understanding of how it works.

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

24 For steel, GZ/ST is steel, is it not?---Galvanised steel, yes.

25 There is 19,723 installed from the 1940s to current, yes.

26 Much of the ageing steel conductors is contained on SWER
27 lines?---Much of it, I'm not sure. I would have to check
28 the numbers.

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

1 yes.

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

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

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

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

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

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

27 Just finally on this, could I ask that we have
28 (SPN.012.004.0138) brought up. You see this is the SP
29 Ausnet replacement program and details matters which by
30 agreement in relation to cost have been redacted from the
31 document, but I want to go to 0171. If we look at that,

1 this is stage 1. Identified lines is referred to here.
2 These appear to be lines that have been particularly
3 identified in need of replacement. If we look just at a
4 couple of them. For example, number 1, it is the
5 Corinella line at Agars Road, Coronet Bay. It's noted,
6 "The copper HV conductor annealed, reached the end of its
7 serviceable life." Leongatha, "annealed, history of
8 falling down". 3, Leongatha, "High voltage conductor
9 annealed, history of falling down. Project been
10 previously surveyed for reconductoring." And so it goes
11 on?---Yes.

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

18 If we go to the next page, and I'm picking these at random. If
19 we go to 8, Leongatha, North Road spur, Fish Creek, "Steel
20 high voltage conductor badly rusted, history of falling
21 down". The next one, 9, Poowong West spur, Poowong,
22 "Steel conductor badly rusted, history of falling down."

23 And so it goes on. There is a problem, is there not, with
24 the eastern network of SP Ausnet?---A particular problem?

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

29 But this, as we will see, Mr Adams, if we go to page 0173, and
30 we go to 21 at Myrtleford, the Everton spur in Beechworth
31 township, "Poor current capacity, old, rotten, copper high

1 voltage cable". Over the page at 22, the Wandiligong
2 line, "Poor current capacity, old, rotten, steel cable".
3 Myrtleford again at 23, "Poor current capacity, old,
4 rotten, high voltage cable". What do you say to
5 that?---I'd say there have been inspections done and of
6 the 20,000 kilometres of line, there are 169 kilometres of
7 line that need to be replaced.

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

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

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

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

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

27 2009?---I don't know. I wasn't there.

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

31 In your time at SP Ausnet which concluded late last year, was

1 there not such a concern?---I don't recall any special
2 alarm about ageing of poles. I recall a general, as
3 I mentioned earlier, around the age of the assets, the
4 fact that there was a large electrification of the state
5 done in the 1960s and 1970s and those assets do not have
6 an indefinite life. What we have also found is that, as
7 assets are approaching the end of their lives, that new
8 engineering techniques come to be to sustain them further,
9 such as pole staking. I'm not proposing today that there
10 is a solution for conductors, but there may be some
11 technique where they can be - sorry, I'm speculating here
12 - but they could be sprayed with zinc coating or something
13 so they don't rust any further, I'm not sure. But the
14 objective is not to just replace assets because they are
15 old. It is to replace them because they are no longer
16 serviceable.

17 Was there not a concern as to the high number of poles in the
18 network that needed staking?---Not that I'm aware of.

19 Can we have a look at (WIT.5103.001.0968). If we can go down
20 the page, you see this is a letter to Mr Gardner of ESV
21 which concerns the bushfire mitigation audit of
22 2008/2009?---(Witness nods.)

23 At a time when you were employed at SP Ausnet?---This letter is
24 dated 19 December when I wasn't employed, but I was
25 employed up to the November of 2008, yes.

26 So you would have had a significant input, would you not, into
27 this document?---Not personally, no.

28 Could we go to 0971. If we look at item 6 there, this is the
29 ESV report, "As mentioned in previous audits the auditors
30 have been of the opinion that the high numbers of pole
31 staking in SP Ausnet (Distribution)'s network" - of which

1 you were in charge - "would sometime in the future create
2 a wave of pole replacement. The number of existing staked
3 poles that are now being temporarily supported until
4 replacement indicates that this wave has now commenced."
5 Weren't you aware of that?---That is an opinion of the
6 auditors. Could I just see what the headings are, please,
7 on the table? "SP Ausnet proposed action/comment". Thank
8 you.

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

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

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

18 You see, there are figures, and I will take you to them, at
19 (SPN.010.001.0071). What it is, Mr Adams, is the
20 electricity distribution five-year asset management plan
21 2006-2010. At 0105, this is stated under "Maintenance
22 strategy", "On average there are 57,000 poles." It is
23 0105, just above "Replacement and repairs". "Poles
24 nearing the end of their lives are moved to a limited life
25 status then monitored on an increased frequency of
26 2.5 years before becoming unserviceable. Poles designated
27 as unserviceable are assessed against a criteria in the
28 line inspection manual as to whether they are either
29 staked or replaced. On average there are 57,000 poles
30 inspected per annum, with 1,300 downgraded to limited life
31 and in 2004, 1,360 downgraded to unserviceable. The rate

1 of poles downgraded is trending up with two species -
2 messmate and white stringybark showing the greatest
3 deterioration." If you go down to "Defective poles", it
4 notes those replaced trending up from 600 to 1,360 and
5 those staked trending up from 700 to 1,800. That is what
6 ESV are referring to, I suggest?---It could well be.

7 Are you able to give us any indication in relation to the
8 deterioration of pole infrastructure what the SP Ausnet
9 position is in relation to replacement?---I can't speak at
10 the moment for SP Ausnet, but I could say that there is
11 nothing in there that surprises me. Just for clarity, a
12 pole traditionally is put in the ground. What normally
13 happens due to the soil and the moisture mix is that the
14 pole will deteriorate just below the surface level in that
15 area. There are inspections done to detect the amount of
16 sound wood and techniques have been developed called pole
17 staking where a large steel beam is placed next to the
18 pole driven into the ground and secures the pole. The
19 tests are done to see how much sound wood there is. If
20 the deterioration of a pole is only within a certain area
21 just below the surface, then a pin is placed further up
22 the pole and the stake is driven into the ground and that
23 will mean that that asset can then last for another 15 to
24 20 years. These have been put in over the last 15 to
25 20 years and therefore those staked poles will be reaching
26 the end of the life as the rot from the inside of the
27 pole - it tends to rot from the inside, it comes up to the
28 point where the stake is no longer serviceable, that would
29 then be defective and that pole would be replaced.

30 Whether they are a staked pole or a normal pole, they have
31 a designed strength, and if they are appropriate for use

1 they will continue to be used.

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

8 If we just have a look at another document about poles, which
9 is at (DOC.ESV.003.0165). Perhaps we will leave the one
10 that's up and I will come back to the one I have asked
11 for. Do you see this is a briefing note of a TXU
12 follow-up field audit of 11 March 2005? If we go to the
13 overall finding: "Overall the view in the initial audit
14 report that the wooden assets in certain areas of TXU's
15 network were approaching the end of their life was
16 confirmed. The results of this audit would also suggest
17 with current deterioration of poles as measured by TXU and
18 their approach to deferring the replacement/repair of
19 assets, the current default inspection frequency of five
20 years is too long." That's what I'm getting at. You would
21 agree, surely, on what we have just seen in the last
22 20 minutes?---The last 20 minutes - I'm reading this here
23 and that's the first time in my discussions with the
24 Office of the Chief Electrical Inspector that I have heard
25 them mention that the five years is too long. Although
26 I wasn't involved in the inspection cycle change, I've had
27 a number of meetings with the Office of Chief Electrical
28 Inspector over the years and I haven't had it put to me
29 that a five year inspection cycle is too long.

30 But, you see, whether it has been put to you or not, I suggest
31 that what is set out there is a fair conclusion, having

1 regard just to the detail that we have been to in relation
2 to the state of poles and the deterioration of poles, this
3 morning?---As I understand it, I'm just trying to see the
4 logic here, there is a five year inspection done. If the
5 pole is believed to last more than five years, then the
6 inspection is done five years hence. If it is not
7 believed that the pole will last more than two and a half
8 years, there is an inspection done in two and a half years
9 time. At that point in time the pole is declared whether
10 it is unserviceable or it will last another period. So
11 I'm trying to see the challenge here.

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

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

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

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

30 But the pin top insulator has been identified, I suggest, by SP
31 Ausnet as being obsolete, outdated and having a particular

1 failure rate?---I can't comment on that detail.

2 If we go to (SPN.006.001.0286). What we are looking at there,

3 I suggest, Mr Adams, is what is referred to as the pin top

4 insulator?---That looks familiar.

5 What do you think about the state of that?---It looks rusty to

6 me.

7 Anything else? What about the tie wire?---The tie wire is

8 rusted as well.

9 So what would you anticipate in relation to

10 inspection?---Anticipate in terms of?

11 What an inspector of that asset would make of what is shown in

12 the photograph?---I'm not sure what an inspector would

13 make of that. I don't know. I haven't been an inspector.

14 So you have no idea whether that's satisfactory or

15 unsatisfactory?---It looks to me to be nearing the end of

16 its life, but it's not my area of expertise.

17 Surely then, as the manager of distribution, this doesn't come

18 under your domain?---Not the inspection of this pole top

19 and not that work. My role is to make sure I have the

20 systems and processes and people that have this skill to

21 do this. I haven't done this. In my years working there

22 I haven't done this.

23 So, despite you having the management responsibility for the

24 people who do this, you have no idea whether what is

25 represented there is good, bad, should be taken off and

26 replaced?---I would rely on the experts that I have to

27 advise me on whether that one would last or not.

28 Otherwise I'm just making a comment.

29 What did the experts advise you in relation to that type of

30 pole top structure?---I don't know. I would have to refer

31 to the documents.

1 Can we have a look at (SPN.012.013.0001). What we have here is
2 an SP Ausnet document of AMS electricity distribution
3 network, concerning insulators, line, medium voltage; is
4 that correct?---That's what it says.

5 If we go to the executive summary at 0004, in the third
6 paragraph, "Analysis of insulator failures has identified
7 pin type fog insulators as the predominant source of
8 failures with route cause analysis identifying electrical
9 and mechanical failure as the causes that result in
10 incidents including pole fires, conductor drops, high
11 voltage injections and potential bushfire risk. The pin
12 type insulator, first introduced in the 1930s, has been
13 obsolete since the late 1970s, early 1980s, when it was
14 replaced by post form insulators. Replacement of the pin
15 type insulator cohort is estimated to cost [blank] or
16 350 per cent of the current total annual asset replacement
17 budget." Commissioners, the figure I read was redacted.
18 I was reading off a copy. I would ask for a suppression
19 order in relation to that figure.

20 CHAIRMAN: Yes.

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

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

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

29 So the significant majority of pin type insulators are between
30 30 and 60 years old?---That seems to correlate because
31 they were installed back in the 1930s and 1940s.

1 If we go to 0009, under "General", "Of approximately 960,000
2 individual medium volt line insulators on the distribution
3 network ... 51 failures per annum or 0.005 per cent
4 failure rate for the MV fleet. Further analysis of these
5 failures indicates pin fog type represent 20 per cent of
6 the fleet as the primary source of failures. For the
7 six-year period, 2002-2007, an upward trend in failure as
8 indicated in figure 5" - which is set out immediately
9 below - "has been observed indicating an approximate
10 5 per cent deterioration in performance per annum which is
11 expected to continue as a function of the increasing age
12 profile of the obsolete pin fog type insulator fleet." In
13 other words, it is anticipated by SP Ausnet that the fog
14 type insulator has increased at 5 per cent per annum and
15 with age I suggest we could consider such deterioration to
16 become exponential unless replaced?---Unless something is
17 done, that failure looks like something needs to be done.
18 I think that's what the plan is trying to say.
19 Putting aside the poles, inspection of this type of insulator,
20 having regard to its age and considerations of failure,
21 would also suggest a review of the five year inspection
22 rate back to perhaps what it was or even less, three years
23 or 2.5 years, would it not?---I can't see the link there.
24 I can see a link that there are a lot of long life assets
25 that are deteriorating and that need to be replaced and
26 I can see that there is an asset management plan that is
27 saying that they need to be replaced and work towards it.
28 We've got ageing conductors, steel and copper?---Yes.
29 We've got poles as identified through ESV and the like with
30 increasing staking and deterioration and at least a very
31 substantial number of these pin type conductors through

1 the network, not only on SWER lines, but on other lines,
2 all ageing infrastructure, all indicating an increasing
3 rate of failure. I suggest those three things would very
4 much point to a need to review the time span over which
5 inspection takes place?---My view is that there are people
6 that review these things on at least an annual basis as to
7 what is appropriate and which assets need to be reviewed
8 at which frequency. Over time it may be shortened or it
9 may be extended.

10 At paragraph 49 of your statement, Mr Adams - - -

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

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

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

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

30 Sure. But within that five-year period, which was the span of
31 that failure history, there was a progressive increase of

1 quite a significant amount overall in the number of
2 failures on a year-by-year basis?---Yes.

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

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

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

20 MR RUSH: Mr Adams, at paragraph 49 of your statement, which is
21 on the screen, you say that, "In 2007/2008 fire season SP
22 Ausnet distribution network assets were associated with 47
23 fire starts." Do you say that the 2007/2008 figures are
24 representative of fire starts caused by SP Ausnet
25 assets?---Representative? The fire season - the assets
26 over the period of the last 15 years, there is a measure
27 we use which is the percentage of reported wildfires
28 compared to the percentage of fires associated with the
29 assets. The objective of the business is to continually
30 decrease the amount of fires associated with the assets.
31 I think 15 years ago it was up around 3 per cent, and in

1 the last period, this '07/8, it was down at around
2 1 per cent, 1.1 I think, from memory. So I think that,
3 although it represents that period, but the objective is
4 and the actuals support that objective of driving that
5 percentage of fires to the percentage associated with
6 assets down each year.

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

9 And indicated in paragraph 49 that there were 47 fire starts.

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

16 If we could go to (SPN.010.001.0124).

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

23 MR RUSH: I think it is just below this graph. Do you see
24 there, and what I'm reading from is the five year
25 assessment plan, 2006-2010, and it is says there, "Over
26 the past 10 years, SP Ausnet has experienced an average of
27 90 fires per year." The primary causal events it sets out
28 are in relation to the cause of fires associated with SP
29 Ausnet assets. "Insulator failure/pole fire - electrical
30 and mechanical (63 per cent)" and so on. That is setting
31 out there an average of 90 fires per year?---Okay.

1 The year after the one that you have referred to, you didn't
2 refer to 2008/2009, but I suggest in that year, 2008/2009,
3 we are up to I think 72 or 75 fires. Could be?---Could
4 be. I'd have to go on the data. I'm just trying to
5 rationalise in my mind, because my understanding is that
6 within the years from about 1997 to now the CFA within the
7 SP Ausnet area has something like 5,000 wildfires that are
8 started a year, and of those fires we have traditionally
9 been around the 1 to 2 per cent but trending down. So
10 just in calculating in my mind I'm in the order of
11 magnitude of 80 to 50. So, if it is 72, 90, 50, 48, that
12 sort of reconciles. Sorry, I was just doing that out
13 aloud so people didn't think I was sitting here.

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

25 MR RUSH: Just one matter on this. At paragraph 41 of your
26 statement at 0019, I will read it, you say, "In the 15
27 year period before February 2009 there was not one SWER
28 conductor break that led to a fire start from SP Ausnet's
29 distribution network." What do you mean by "conductor
30 break"?---There are a number of ways that conductors can
31 fail. Conductors can fail - by definition they can fail

1 by the pins, the ties falling, they can fail by joints
2 breaking or they can fail by the conductor breaking. In
3 those years the analysis showed that in that 15 year
4 period that are robust records that there was no fire
5 starts from a SWER line conductor break. This data is
6 used by the engineering group then to assess the level of
7 risk and which type of assets should be replaced before
8 which other type of assets in their asset management
9 planning.

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

19 I think your understanding might not be what the records say.
20 If we go to (DOC.ESV.004.0003). If we can go down the
21 page a little bit, you will see we are talking about the
22 same incident, 8 February, and underneath that, "Wire down
23 reported by CFA at Murchison". If we go to "Dispatched
24 crew to attend. Called to say they were going to attend.
25 Shed of old brown insulator broke off and came within
26 800 millimetre of ground beside pole." So it is an
27 insulator problem, is it not?---That's what that says,
28 yes.

29 What I'm saying is you didn't or you don't include - when you
30 talk about conductor break, you are not including this
31 sort of incident?---Not including an insulator breaking.

1 In the reporting there are a number of categories as to
2 - - -
3 I know. My question is quite direct. When you refer to
4 conductor break, you are not referring to an insulator
5 break?---Yes, or an animal on the line or other things.
6 So that figure has the potential to be quite misleading in
7 relation to fires that may be caused as a consequence of
8 an infrastructure problem on a SWER line?---I thought the
9 comment was quite specific. We talked about conductor
10 breaks. I wasn't trying to impute anything else.
11 Can I ask you about auto reclosers. Before going to that, it
12 is SP Ausnet that do their own figures in relation to fire
13 starts. The figures here are internal to SP Ausnet;
14 correct?---The figures in?
15 How are they put together?---My understanding is the figures
16 are collected in conjunction with the CFA.
17 Perhaps it is worth going to this for your comment, at
18 (DOC.ESV.001.0192). This is a bushfire mitigation
19 management plan evaluation done by Energy Safe Victoria of
20 the plans submitted for 2006. At 0192, if we go down the
21 page a little, do you see next to "BM strategy plan", this
22 comment on the audit: "The 1.1 per cent rated assessment
23 of performance for '05/06 season claims to be based upon a
24 total of 55 fire starts for the region of which 30 were
25 associated with SP Ausnet assets. These figures seem to
26 be grossly underestimated." Are you aware of criticisms of
27 SP Ausnet figures?---I wasn't aware of that, no.
28 Does anyone audit those figures?---There are audits done of the
29 bushfire mitigation system and processes. There are
30 audits done of the systems that collect the data and there
31 is quite a lot of checking of figures. So I can't say for

1 that exact figure, but I'm fairly confident.

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

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

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

24 Has that been in your opinion a successful inclusion into the
25 bushfire risk management strategy?---I think the
26 suppression on those days is - it's always - I think there
27 are two questions there in my mind. One is I think it is
28 an important inclusion in the bushfire mit strategy. The
29 second one, I think the balance between the supply of
30 electricity and the suppression is always a very difficult
31 discussion.

1 If we go to 0146. At the bottom of the page under "Auto
2 reclose suppression" the policy is there set out. It is
3 the manager of network operations?---Yes, which is the
4 head of the control room in the operations there.
5 "Ensure the auto reclose is suppressed on designated feeders."
6 How are those feeders picked?---My understanding is the
7 risk of those areas that are in high bushfire risk areas,
8 I think there's a table; I can't recall.
9 I think you're right, it is over the page. Then if weather
10 conditions abate you can restore the auto reclose
11 suppression, but that will happen once the fire danger
12 index falls below 30; is that correct?---Yes.
13 Over the page the areas of feeder suppression are there set out
14 and there are regarded as the high risk bushfire
15 areas?---Some analysis has been done.
16 I just want to take you to the paragraph underneath that.
17 "POELs", that's poles, is it not?---No, it's not a
18 misspelling. It's privately owned electric lines.
19 "With urgent defects shall, where practical, be disconnected"
20 on a TFB?---Yes.
21 And if the total fire ban commences at midnight, arrangements
22 are made?---Yes.
23 So what would the reason be for the disconnection of a
24 privately owned electrical line?---Urgent defects - what
25 sometimes happens is we are talking about private electric
26 lines that are not owned by the distribution company and
27 are owned by the resident. In some cases we go and
28 inspect those lines for the private owner and find that we
29 don't believe that they are in a suitable condition and
30 issue the customer with a notice to say, "Within the next
31 two years or whatever you should replace that pole." We

1 sometimes have customers in a sense that say, "No, I think
2 the pole is going to last longer," and therefore we take a
3 duty of care that these are assets, whether they are poles
4 or insulators or whatever, that we believe need to be
5 repaired and are outside our, what we would call
6 acceptable design parameters. So on those days we tell
7 those customers that, if they want to retain supply, they
8 need to fix those lines and, if they don't, on total
9 bushfire ban days we disconnect them from supply because
10 they are outside of acceptable tolerance.

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

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

22 What can you tell us about it?---One of the challenges with
23 inspections is the assets have a uni-directional view, so
24 you are looking from the ground up. Particularly for
25 cross-arm failure, the cross-arm being the beam at the top
26 of the pole, moss and mildew and deterioration tends to
27 happen at the top of the cross-arm, which is not very easy
28 to detect from the ground. Therefore, if something is
29 detected in an inspection, you either go there with an
30 elevated platform vehicle, which is a cherry-picker, have
31 a look at the top, or if you are able to fly a helicopter

1 or some type of device over with a high resolution camera
2 and get another view of the asset, so have a better
3 quality inspection, and the objective of the business is
4 to continually improve and to try these things out.

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

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

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

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

31 It has been the SP Ausnet policy, I suggest, since October 2002

1 to fit spreaders on all open wire low voltage spans in
2 hazardous bushfire risk areas?---That's familiar, yes.
3 And spreaders have about a 20 year life cycle?---They may have,
4 yes.
5 But that has been successful, has it not, in reducing clashing
6 of conductors?---That's my understanding, yes.
7 It is also the SP Ausnet policy as of this year to fit dampers
8 for the purposes of the reduction of aeolian vibration to
9 conductors in high bushfire risk areas?---It may be.
10 You don't know about that?---I know what aeolian vibration is
11 and I know what dampers are, but I'm not sure if Ausnet
12 put them in this year.
13 Perhaps I understated it. If we can go to (SPN.012.004.0126),
14 which is a page from the steel conductor condition
15 assessment manual, and the audit of June 2009. If we go
16 to 0126, what we see there is a photograph of a conductor
17 with a damper on it?---Yes.
18 It is a very simple device, is it not?---Yes.
19 Underneath we see "Dampers should be fitted to all conductors
20 with spans greater than 300 metres"?---Right.
21 Is that your understanding of the current policy of SP
22 Ausnet?---I don't know that detail, but from that, yes,
23 that's the SP Ausnet policy.
24 Perhaps if we could go back to 0124 and figure 21. Are you
25 familiar with that sort of equipment?---Yes.
26 The photograph here, is that the sort of definition that can be
27 taken by a pole top camera?---My guess is yes. The photos
28 I have seen look similar to that.
29 Would you expect just one photograph of that sort of structure
30 or a multiple, from both sides?---I have seen a number of
31 them, Mr Rush. I have seen the video footage where they

1 take a number of stills around. I have seen individual
2 shots. So, as presented to me, the team that were
3 introducing this were trying to show me the capabilities,
4 what it could do, the types of photos, as distinct from a
5 particular - that's how I came across it.

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

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

12 Is it your understanding that the fitting of dampers includes a
13 retrofit of dampers to conductors in excess of
14 300 metres?---I'm unaware.

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

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

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

31 Particularly when the evidence as disclosed this morning

1 indicates, as far as a significant proportion of the SP
2 Ausnet infrastructure is concerned, conductors are ageing
3 assets?---Yes.

4 They are the matters, Commissioners.

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

13 I would be interested in your view on that?---Opinion. In my
14 experience, the decision between putting the customer on a
15 one trip lose supply and also lose it for a considerable
16 amount of time, particularly in some rural areas, has been
17 debated a number of times and I have been involved in
18 some. With a bushfire mitigation hat on it is an easy
19 decision you do that. With a customer and ramifications,
20 you make the other call. In relation to the cost of
21 undergrounding the network, that would be considerably
22 higher. I think in order of priorities in the data I have
23 seen on undergrounding, I haven't seen a report yet that
24 demonstrates blanket undergrounding, but I have seen some
25 reports where it shows in specific instances where
26 undergrounding would be appropriate and would be the most
27 effective solution. I'm trying to join the two together
28 now. I would see that suppression of lines would be the
29 simpler effect. It is a matter of then going to the next
30 level, working out the specific implications for that
31 particular line for that particular area. Over the years,

1 if I can put a bit more context, Commissioner, there were
2 a number of firefighting stations and others that used to
3 use electricity for that. As these lines tripped out and
4 stayed out I think the actual firefighting mechanisms have
5 become more sophisticated with electricity back-ups and
6 all of those. So I think that over this period of time
7 and maybe with some of the outworkings of this Commission
8 that, working in concert with what happens in a bushfire
9 and how the communities are supported, then that may well
10 lead to being able to do some more work on suppression, so
11 the balance would actually favour that way.

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

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

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

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

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

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

28 What kind of pressure or trade-offs does that lead for you as a
29 managing director when you are trying to keep the
30 balance?---One of the key obligations is - you have
31 obligations to your shareholder and the network. But the

1 important thing for me in dealing with the shareholders is
2 for them to understand the regulatory regime and to
3 understand what they have invested in and what their
4 returns are associated with. In the sense of my time at
5 Ausnet and also in relation to Jemena, we have tended to
6 spend within the sort of 5 per cent range of what has been
7 allowed in our regulatory submissions. So the regulatory
8 submissions really become the underpinning of the funding
9 for the business. I think we are actually a little
10 overspent on the network, and I go to my shareholders.
11 Now, just if I may talk about that economic driver, which
12 is a key point. The way the regime works is that if you
13 do have to spend an extra few million dollars to do some
14 work you obviously have the time value of money which is a
15 cost to your shareholder, but in the next rate reset if
16 that is a prudent and, by definition, a prudent spend,
17 that that can be rolled into your regulated asset base
18 which forms the value going forward. So there is a
19 motivator there to be efficient and effective. On the
20 other hand, if it is demonstrated that you are replacing
21 assets that don't need to be replaced, the regulator has a
22 right not to pay you; in other words, to say, "Sorry, that
23 was inefficient spend and I'm not going to fund that
24 activity." So that's why I emphasise that word "prudent".

25 COMMISSIONER McLEOD: Are you aware whether that situation has
26 ever arisen?---I don't know the exact specifics, but
27 I think one of my New South Wales colleagues had some of
28 their funding for a construction that they built that the
29 regulator thought was overdone and disallowed that design.
30 But from your comment it would seem to be a fairly unusual
31 event?---We put a lot of effort into our business plans

1 and our business cases so that when they come up to me for
2 signature I say, "Is this prudent? Is this the least cost
3 technically efficient," because that's what my customer -
4 in a sense the regulator represents the surrogate customer
5 - that's what they are demanding and I need to be able to
6 sign that off, otherwise I don't have agreement.

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

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

10 <CROSS-EXAMINED BY MR RICHTER:

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

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

25 MR STANLEY: If the Commission pleases, I desire to say
26 something about this line of questioning. The position,
27 I'm instructed, is this. That on 30 June this year the
28 solicitors for SP Ausnet met with counsel assisting the
29 Commission and discussion was had concerning what sort of
30 evidence would be and should be led through SP Ausnet.

31 Mr Adams's statement was prepared in a form in which it is

1 tendered and it was forwarded to the Commission, to the
2 counsel assisting the Commission, lawyers for the
3 Commission on 28 August. The letter that accompanied the
4 submissions indicated and stated, "As previously
5 indicated, if you consider there are additional topics of
6 interest which Mr Adams can address and which would assist
7 the Commission, please do not hesitate to contact us." No
8 further request for further information has been sought.
9 The situation therefore is that Mr Adams is deemed to be
10 the appropriate person to give the evidence and no further
11 request for any further information has been sought.

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

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

26 MR RICHTER: Thank you. Mr Adams, are you able to tell us from
27 your position - you are an engineer by training?---Yes.
28 Are you able to tell us anything about failure age ranges and
29 how they might be applicable to an examination of the
30 Pentadeen spur line that broke?---I'm happy to try to
31 answer the questions.

1 Are you able to tell us whether, first of all, the spur line,
2 the Pentadeen spur line, was assessed in order to place it
3 within a failure age range?---No, sorry.

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

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

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

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

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

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

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

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

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

31 Were you aware that the way it was situated was in a roughly

1 east-west direction when the prevailing winds were roughly
2 north-south?---I wasn't made aware of the winds, no.
3 Were you aware of how the line was tensioned?---Not that
4 specific line, no.
5 But the tensile load on a particular line would be of
6 significance?---The tensile load would need to be taken
7 into account in the design, yes.
8 You were aware of course that there was no vibration damper
9 fitted?---Yes.
10 To an ageing line?---To that asset, yes.
11 Of unusual features, some of which I have given to you; yes?
12 An ageing line with unusual features?---Sorry, I thought
13 I answered. Yes.
14 As far as you are aware, is it the situation that when
15 assessing the age fitness of a conductor it is really a
16 question of one size fits all? In other words, it doesn't
17 matter what are the particular peculiarities of the line;
18 the assessment, whatever it is in terms of giving it some
19 failure age range, is independent of those specific
20 features?---That's my understanding.
21 So you can have a line which is particularly susceptible, at
22 least theoretically and certainly practically, to failure,
23 it receives the same treatment as a span in the
24 metropolitan area which will go for 200 metres between
25 poles in terms of assessing age fitness; is that
26 right?---That's correct.
27 Of course you have told us about the aeolian vibration
28 feature?---Yes.
29 You are aware that it is and has been for many, many years a
30 known hazard?---Yes.
31 You are aware that it can and does from time to time lead to

1 ruptures of conductors?---Yes.

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

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

13 Well, is there any difference between ice loads and wind loads
14 in terms of actual loading problems? A load is a
15 load?---Well, there are different - again, I did qualify
16 as an engineer. I haven't been practising as an engineer
17 for a long time. But I'm not sure if I add value by
18 entering into that. I will ask the Commissioners: if you
19 want me to help, I will try and just say that my
20 understanding is once the lines are loaded with ice or
21 loads they change their resonant frequency. So the
22 resonant frequency of a line will change depending on the
23 mass, the pendulum mass. Therefore, if the line is
24 designed to a certain standard, it is designed to try and
25 minimise that vibration that could cause fatigue and
26 damage. When it is ice loaded or wind loaded, then you
27 need to put additional harmonic dampers to take those
28 harmonics out of the line to reduce that damping, and that
29 is the difference, in my view, between the ice loading on
30 the lines and the loading on a normal line that doesn't
31 have different weight-bearing loads put on it.

1 Now, the one thing that was known at Ausnet when you were
2 there, SP Ausnet, was that there was an increasing
3 deterioration in conductors at a certain rate?---Yes.
4 The replacement program that was instituted, we talked about
5 proposed replacement of 1,770 kilometres of steel wire.
6 Was the criteria for selecting those based on any
7 peculiarities of the spans other than the fact that they
8 had failed a lot?---I can't say whether the span was taken
9 into account.

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

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

1 environment the line is in?

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

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

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

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

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

1 are significant fires due to drought and other years where
2 there might be a wet season so there are not as many
3 fires.

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

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

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

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

22 The document I'm referring to is annexure PJA 1 to your
23 statement. It purports to cover a 20-year period, 1976 to
24 1996?---Right.

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

28 Are you able to tell us anything about how this particular fire
29 would have been reported within the SP Ausnet
30 system?---Reported in the system? I think it would have
31 been registered as a conductor failure.

1 Yes?---And it would have been included - from my experience at
2 the bushfire mitigation meetings and others, each of the
3 fires has an area burnt. Whether it is two square metres
4 on the ground under the pole or whether it is three
5 hectares or whatever is normally recorded as well.
6 So far as the Bryant report and considerations need to be taken
7 into account, what the Bryant report says at
8 (WIT.5103.001.0086) under the heading "Asset management
9 systems" is this, "Support of asset condition data
10 requires augmentation of the existing asset management
11 system to accommodate increased asset information. The
12 asset management system should also be integrated with
13 the geographical asset management system. Asset
14 inspection personnel require more detailed and objective
15 condition based criteria to assign asset condition
16 prioritisation. Asset inspection activities should be
17 supported by portable data application devices capable of
18 providing the required support for personnel to accurately
19 update the asset management systems with enhanced asset
20 condition data." From that it would seem that the sort of
21 features that I drew to your attention had not been
22 factored into that time but that it needed to be
23 augmented; that's right, isn't it?---Yes.
24 And that report bears the date 20 October 2008. Has it been
25 augmented, do you know?---Which question? Your first
26 question was there is a system of collecting data?
27 The asset condition data?---The asset condition data by
28 inspectors that is provided back into the system?
29 Yes, has that been augmented by the requirements to report - -
30 -?---I don't know if there is a new system since that
31 date.

1 Who should we ask? Who should we ask about what's happened
2 since? Engineering group?---If I was there, I would ask
3 the IT group or the engineering group or my people.
4 If your people were asked, they would be able to supply that
5 information, I take it, would they?---They should be able
6 to answer, "Has this new IT system" - I think you are
7 asking a different question, but I will try to answer this
8 one.

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

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

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

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

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

28 CHAIRMAN: Yes.

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

1 experience - - -

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

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

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

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

17 CHAIRMAN: Yes, thank you, Mr Richter.

18 MR RUSH: We will take the morning break.

19 CHAIRMAN: It is time for a break, yes.

20 <(THE WITNESS WITHDREW)

21 (Short adjournment.)

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

1 CHAIRMAN: Yes, thank you.

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

5 MS DOYLE: If the Commission pleases.

6 <PAUL JOHN ADAMS, recalled:

7 <CROSS-EXAMINED BY MR STANLEY:

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

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

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

23 I can inform you that for the period 1977 to 1996 of that
24 14 per cent 13 per cent was attributable to the Ash
25 Wednesday fire in 1983, so that the other 1 per cent
26 covered the other 19 years?---That was the data I was
27 trying to recall from memory.

28 Yes. So far as the percentage of fires that are related to SP
29 Ausnet's assets, the figures indicate and your evidence
30 shows that there has been a downward trend in the
31 percentage of fires since 1994 from a figure in excess of

1 3 per cent down to 1 per cent at the present?---That's
2 correct.

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

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

21 You were asked a number of questions about whether it was
22 appropriate to have less than a five-year inspection
23 procedure. Apart from the actual asset management based
24 upon that five-year cycle of inspection, what other
25 inspection procedures are carried out to your knowledge by
26 SP Ausnet?---Every year within the bushfire area there is
27 an annual vegetation audit of the spans that have
28 vegetation in them. Within that audit there is an
29 instruction for people to look for any matters that might
30 need further investigation or consideration. There is
31 also the data that comes back from the field in relation

1 to engineering reviews and during the fire season there
2 are ongoing audits, which are called the summer audit
3 program, where all of these factors are reviewed again and
4 a sample is done of works conducted. So there are annual
5 audits each year, there are five-year detailed audits and
6 there are reviews intermittently in between that.

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

19 I want to ask you about the practice that SP Ausnet have of
20 outsourcing asset inspection. Firstly, is that a
21 procedure that you know occurs throughout the
22 industry?---In terms of outsourcing, it is probably
23 important to note that you would outsource where you have
24 something that is measurable and definable, something that
25 you can bundle up and give to another person who is
26 focused on it, that there is a market in place and that
27 there are suitably qualified people. In relation to asset
28 inspection, I think there are very few companies across
29 Australia that actually insource or have their own people
30 doing asset inspection. One of the reasons in my
31 experience is that the line workers or the people one has

1 in the business are skilled people. They are skilled
2 tradesmen. They like to use their hands. They like to
3 build and do things. Some of them see it as a punishment
4 to have to walk the lines, in a sense, as distinct from
5 building and constructing assets.

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

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

31 You were asked a number of questions about undergrounding the

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

13 You have already told the Commission of, in your own
14 experience, an application made with respect to the
15 Dandenongs?---Yes.

16 And that was rejected?---Yes.

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

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

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

30 COMMISSIONER McLEOD: No, but I thought the way you posed the
31 question to the witness, he answered I think believing

1 that you were asking what was his view on all SWER lines
2 being placed underground.

3 MR STANLEY: That was how the question was put.

4 COMMISSIONER McLEOD: Yes.

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

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

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

20 COMMISSIONER McLEOD: The reason I asked for that clarification
21 is that I thought there was a contradiction between you
22 saying the cost would be prohibitive against the
23 background that you have also acknowledged that SP Ausnet
24 at one stage had put a proposition in relation to the
25 undergrounding of lines that had been rejected?---Yes.
26 So that in that particular case at least it must have been SP
27 Ausnet's view that the cost of that particular project
28 wasn't prohibitive?---I agree, Commissioner. The lines in
29 the Dandenong case were three-phase with cross-arms going
30 through areas as distinct from SWER lines. That was the
31 differentiation. If I was to categorise, I would say

1 heavily dense vegetation, tourist area with lots of faults
2 and trees falling and bark on lines on three-phase lines
3 would be the ones I would put up the front end of the
4 undergrounding queue. SWER lines across open plains that
5 you can easily see and look after might be towards the
6 back end, although there is always a distribution of
7 suitable lines. Within that, depending on the level that
8 was agreed with the regulator, there may well be some that
9 come into that undergrounding, if that's a better answer.

10 MR STANLEY: You have indicated in the current submission
11 that's been put forward by SP Ausnet there is a 40 to
12 60 per cent increase claim for asset management. What
13 would you anticipate, if you can answer this, would be the
14 sort of percentage allowed?---My hope is that it is all
15 allowed. My experience has been that if it is within the
16 current guidelines, if it is within the tradition of "this
17 is how you have done it in the past, this is what you do",
18 it is normally allowed. When you put up things that are
19 of difference, a new innovative approach, that's where it
20 becomes far more difficult to have an allowance. One of
21 the submissions or one of the discussions we are having
22 with the economic regulator at the moment is about some
23 type of innovation allowance, because with innovation
24 there is risk and how is that funded. At the moment, if
25 the business funds that innovation and it works, that cost
26 goes straight back to the customer, that saving, in a
27 different technique. However, on the other hand, if the
28 innovation is put forward and it doesn't work, that cost
29 stays with the business. In the United Kingdom they have
30 put together an innovation allowance where companies can
31 put to the regulator and say, "We think there are some new

1 ways of doing it. To run this pilot program will cost
2 \$1 million or \$2 million." The regulator has the
3 opportunity to look at that, approve that. Those
4 benefits, if they come to fruition, then go back into the
5 price and reduce the cost to customers and things happen.
6 So there is some debate happening at the moment with
7 regulators about some of these mechanisms to improve. In
8 my view, those opportunities could extend to managing
9 bushfire risk.

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

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

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

24 MR STANLEY: I will withdraw the question. It wasn't of major
25 moment. You were asked about the issue of using dampers.
26 In your experience or from what you know, do you have any
27 opinion as to whether a damper serves a purpose where you
28 have a line that is connected with a number of insulators,
29 such as was the situation on the Pentadeen spur line at
30 pole 39?---My understanding of the aeolian vibration is
31 that it comes into effect where there is no damping or

1 where there is no movement in the line, and another way or
2 another contribution to significantly reducing the effects
3 of aeolian vibration is by the use of shed type insulators
4 as distinct from pin type. Shed type insulators, for the
5 Commission, are a series of insulators connect by pins
6 that look like a series of plates with a pin through. Due
7 to the flexibility and movement in that, they tend to
8 offer a significant advantage in reducing the vibration.

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

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

15 Could you tell the Commission that experience, because it
16 perhaps reflects upon the difficulty that is involved in
17 this question?---We had a situation on the network
18 associated with fires back in I think it was 2007,
19 17 January, somewhere around there. I remember the day.
20 It was a transmission system. We had significant fires.
21 The fires jumped the transmission line and got themselves
22 into a pine plantation in a change of wind. All of the
23 pine needles and that were thrown up, caused a lot of gas,
24 let's just say, that is conductive and tripped the
25 transmission lines out. If I just go back one step, in
26 transmission lines they have very clear easements, and
27 these are transmission lines. In discussions on the day
28 with the CFA we said, "You need to keep people out of
29 these transmission lines and we need to make sure the fire
30 doesn't get into them because they are the main
31 interconnect between Sydney and Melbourne or the snowy and

1 the Melbourne load." Unfortunately the wind direction
2 changed, the fire got to that easement and the line
3 tripped. Then the call came through to say, "Are we going
4 to re-energise the line?" Now what we had off, to put in
5 perspective, we had off about 50 per cent of Melbourne
6 CBD, quite a substantial place. In discussions with
7 government officials and others there was a call to say,
8 "Can we put the line back on?" In discussions with the
9 CFA there was, "Hey, we're not sure whether a line has
10 come down, a tower has come down. We're not sure." Then
11 the CFA mentioned that some of their people may be under
12 the line, as in taking refuge in that easement. I then
13 received the call, "Are you prepared to put the line back
14 on?" I said, "Is that an instruction to put the line back
15 on or is that me making the decision" - - -

16 Who was the call from?---I can't remember exactly. Someone
17 from the Department of Primary Industries I think, a
18 government department. I can go back in my notes. After
19 some consideration, I decided not to reconnect the line.
20 Without going into any more detail, after a few hours we
21 got some clearance and we put the line back on, found
22 there wasn't a tower down. But if there had been someone
23 under those lines, these are 330,000-volt lines, we could
24 have had a fatality. At the same time we have the whole
25 of Melbourne off supply. Subsequently there was an
26 inquiry and there was a lot of debate about, "Well, we
27 should have automatic reclose on that system." "No, we
28 shouldn't have automatic reclose on that system." I have
29 had other experiences, but I'm just trying to share that
30 this debate has been going through transmission
31 distribution. In New South Wales they have automatic

1 reclose in the times of fire. In other states they
2 disconnect the line. I'm just sharing my industry
3 experience to say that this is a very tough decision on a
4 case by case basis.

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

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

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

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

14 MR STANLEY: Thank you, Mr Adams.

15 <CROSS-EXAMINED BY MS JUDD:

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

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

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

31 But in terms of what can flow to the community by reason of

1 them not having electricity for an extended period of
2 time, that can be promoted to the position of dangers to
3 the community, can it not?---Yes.

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

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

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

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

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

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

27 Just two other very quick examples which are Powercor. In
28 Coleraine there was evidence given that the fuse
29 protecting the SWER circuit did not operate during the
30 fault because the current flow through the contact with
31 the side of the pole and/or vegetation would have been

1 insufficient to trigger the fuse because of the
2 intermittent style of that contact?---Yes, that makes
3 sense.

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

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

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

13 So is that the type of evidence you would be wanting to put
14 into the mix when making a decision about whether or not
15 it is appropriate to suppress automatic circuit
16 reclosers?---Yes. I think the point you make is quite
17 valid. The difference between a reclose fire start and a
18 fire start associated with some type of tree on a line or
19 some type of failure, I think that analysis - they are
20 some examples, but I'm sure there is a lot more data.

21 I don't have a view, but I think that's exactly the type
22 of analysis on, let's call it, the risk side of equation.
23 On the other side, the data that needs to be taken into
24 account is the situation when the power is out and what
25 does that mean to the community on a day of total fire
26 ban. So that's the balance.

27 Other evidence that might need to be looked at is the
28 percentage of fire starts by reason of power assets
29 compared to fire starts generally?---Yes. As I mentioned
30 earlier, of the 4,000 or 5,000 that happen in the Ausnet
31 area, around one and a bit per cent are associated with

1 the assets compared to the other fire starts. Then it is
2 a matter of drilling into those 1.5 per cent to see
3 whether they were conductor failure, pole failure, lines,
4 insulators, trees, vegetation, whatever and then working
5 through in a prioritised manner to minimise that, to
6 continue to drive that performance forward.

7 <RE-EXAMINED BY MR RUSH:

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

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

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

22 You were asked by Mr Stanley about a decline in the trend of
23 fire starts. One of the statistics in relation to fire
24 starts or the greatest cause of ignition is vegetation
25 from trees falling on powerlines?---That sounds familiar.

26 What's been done in relation to that?---Well, there is a
27 vegetation clearance code. There is a - - -

28 I want to really concentrate. I suggest to you that with the
29 vegetation clearance code, with the management protocols
30 that are in place, 22 per cent, the highest number of fire
31 starts, are caused by trees. So what's been done in

1 relation to that in the last couple of years?---As I was
2 trying to say, in the last couple of years, in my time
3 there there is a rigorous vegetation management program.
4 I think the business would spend in the order of 12 to 15,
5 maybe even more, maybe even heading up towards \$20 million
6 a year on trimming vegetation around trees. They would
7 have also instituted in my time there a program called
8 removal of hazardous trees. So, although there is a
9 clearance space around the line, there was an additional
10 effort to remove those trees that were outside of that
11 space that could actually fall on the line and cause some
12 damage.

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

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

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

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

31 You have never compared the UAM manner of instruction of

1 inspectors with the Electrix - - -?---That is right.

2 I just said that.

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

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

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

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

29 MR RUSH: From the SP Ausnet point of view, the places to start
30 would be those places which you have identified where
31 there is suppression of auto reclosers; they are the

1 high-risk areas?---There is a difference between the areas
2 that have auto reclosers and the areas that might be high
3 risk, because in the Dandenongs there is a different
4 protection configuration, without going - unless you want
5 some more detail.

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

10 CHAIRMAN: Yes, thank you. You are excused.

11 <(THE WITNESS WITHDREW)

12 DR DONAGHUE: Commissioners, I recall Mr Gardner.

13 <KENNETH ALEXANDER GARDNER, recalled:

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

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

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

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

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

26 I tender that supplementary statement.

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

30 DR DONAGHUE: Going to your first statement, exhibit 223, do
31 you have that in the witness box with you?---I do.

1 If you could turn to paragraph 100. In paragraph 100 you say,
2 "Often ESV attempts to adopt a co-regulatory approach to
3 the regulation of the energy sector. In the area of
4 electricity this means that the regulated entities will
5 regulate their business in accordance with the various
6 systems they have adopted. For its part, ESV seeks to
7 collect information to inform itself on whether the
8 particular regulated entity has adequate systems that are
9 being properly applied and utilised." Would you agree that
10 what that really means is that ESV's approach to its
11 regulatory role of electricity distribution businesses is
12 to focus on the processes adopted by those businesses
13 rather than to mandate particular outcomes?---That's
14 correct. So we are looking at their processes and
15 management systems.

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

25 Does not?---Does not.

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

29 So, in effect, the way that ESV approaches the discharge of its
30 function to approve or not approve plans is to look at
31 whether the business that has submitted the plan has

1 addressed the matters it is required to address in the
2 regulations and, if those matters have been addressed, it
3 will approve the plan without a detailed review of the
4 content of the policy that the business adopts in relation
5 to any particular topic?---I would say often or, if not,
6 normally we would have a reasonably detailed review of the
7 content and we would want to satisfy ourselves not only
8 that the issues had been covered but at least on the face
9 of it that they looked reasonable and that improvements
10 were occurring, appropriate policies and procedures were
11 in place and that, if we didn't believe that was the case,
12 we would challenge the companies to provide more
13 information and documentation up to a certain point. But
14 in the end we do have to approve a plan if they have dealt
15 with all the areas that are covered in the regulations.
16 When you say you have to approve the plan if they have dealt
17 with the topics, where does that obligation come
18 from?---Well, within the context of the regulations it
19 says they must submit a plan, must deal with these areas
20 and there is a penalty on them for not submitting a plan,
21 but there is nothing that prescribes a standard that fits
22 within each of those areas. So our basis for behaviour
23 is, provided that it does deal with the issues and that it
24 looks to be sufficiently rigorous, that we approve the
25 plan.
26 Can I show you just by way of example the document that is
27 annexure 47 to your statement. It is (WIT.3020.001.1395).
28 COMMISSIONER PASCOE: While that's coming up, can I just ask
29 the figure we had from the previous witness was of a rate
30 of 1.1 per cent of fire starts caused by the company
31 asset?---Yes.

1 So when you say there is not a standard for the ESV or now the
2 AER, does that mean that there is no way really of the
3 regulator assessing whether that's a reasonable
4 rate?---The way that we have dealt with that issue over
5 time is to say that we are seeking to have improvement
6 over time, so we want to see that number going down.
7 I think the businesses have been able to demonstrate both
8 to us and here that they have put in place changes and
9 improvements over a period of time that has reduced the
10 number of fire starts that are caused by their assets.
11 That obviously needs to continue and there are a whole
12 heap of things that need to be done to - - -
13 But that's a process in the absence of a standard?---In the
14 absence of a standard, that's correct.
15 Can you see benefit in having a standard?---I think there are
16 benefits in having standards in relation to certain
17 aspects, definitely.
18 DR DONAGHUE: Mr Gardner, the document that's in front of you
19 is an Energy Safe document. This is the kind of document
20 that Energy Safe uses in evaluating bushfire mitigation
21 plans; is that right?---That's correct.
22 Down the left-hand side those numbers 5(a), 5(b), 5(c) are
23 references to the bushfire mitigation regulations?---And
24 their requirements, yes.
25 Essentially the way this process is adopted - and I won't take
26 you to the specifics, but if you need to look through the
27 table you can - it matches up the requirements in the
28 regulations on the one hand and then identifies the place
29 where that topic has been addressed within either the
30 bushfire mitigation plan or the underlying supporting
31 policy documents?---That's correct.

1 You make sure there is a policy on each topic?---That's
2 correct.

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

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

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

30 Distribution businesses - again, we have heard some evidence
31 about this this morning - don't get to control their own

1 prices, do they?---No.

2 Those prices are now as of the start of this year controlled by

3 the Australian Energy Regulator?---That's correct.

4 ESV doesn't have any role in relation to the setting of prices

5 either, does it?---No.

6 Given the distribution businesses can't set their own prices,

7 does it follow from that that any bushfire mitigation

8 steps that they might take will inevitably be developed

9 within the context or subject to the constraints of the

10 funding model then in place?---That's correct, subject to

11 a five-yearly review when they can obviously make a

12 significant step change in expenditure. Within the normal

13 price reset period they are constrained. But they do have

14 flexibility about how they spend the money that they are

15 allocated by what was then the Essential Services

16 Commission. So they do have power to swap it from one

17 area to another.

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

19 That opportunity every five years to step change is an

20 opportunity to submit to the regulator that they should be

21 given additional funding to undertake a step change, but

22 they won't actually be able to make that change unless the

23 regulator agrees?---That's correct, or they can spend

24 their own money which they have from other places.

25 Does ESV see a role for itself in lobbying or making

26 submissions to the price regulators about safety changes,

27 investments or innovation in electricity networks that

28 might improve the safety of those networks?---We do. We

29 have had extensive discussions with the pricing regulators

30 in the past. We have a memorandum of understanding with

31 them about how we will communicate with them both during

1 normal operations and during the price reset period. For
2 example, on this occasion we have made submissions to them
3 wanting them to take a longer term view in terms of asset
4 management rather than, as you say, restricting it to
5 five-year periods. We have sought to be involved in that
6 process.

7 Mr Adams this morning gave some evidence about a proposal by SP
8 Ausnet to place their lines through the Dandenongs
9 underground and Mr Breheny on Wednesday gave evidence
10 about similar proposals about undergrounding lines through
11 the Otway and Macedon Ranges. Would ESV regard its role
12 as being to support power companies in proposals of that
13 kind that would reduce bushfire risk?---Potentially.

14 I was aware of the Powercor one, whereas I don't think we
15 were involved in the SP Ausnet one in the Dandenongs. But
16 we would often, if we thought it was worthwhile, be
17 prepared to support proposals that are put up to the ESC.

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

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

31 And actively support through submissions to the price

1 regulators?---I'm just trying to recall in that situation
2 whether we were asked to or involved. We certainly were
3 on a number of broader safety matters which probably had
4 bigger implications in terms of pricing. I don't remember
5 being directly involved on those issues.

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

10 COMMISSIONER McLEOD: If the proposition was built around
11 improving safety at a higher cost and also improving
12 serviceability for the community, would your organisation
13 have any capacity other than to support it if the purpose
14 is to make the situation safer?---No, I'm sure we would
15 support it. There would be a whole heap of other
16 regulatory hurdles that it might have to overcome.

17 I'm only talking about your organisation. In a sense, you
18 would only have one option: that is to either not become
19 involved or to support it, given your role? If the
20 purpose is, from your point of view, obviously to improve
21 the safety of the network and to protect the community
22 against possible fires, given your role, you could hardly
23 not support it?---Yes, it would be very surprising if we
24 didn't support it, if they were the outcomes that we were
25 looking to achieve. We might want to offer suggestions
26 about how it might be more effective or so on and so
27 forth.

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

30 DR DONAGHUE: So when you said that, if you were contacted in
31 advance in relation to a proposal of that kind you would

1 certainly be involved, that meant you would support it?
2 You are not suggesting something different by the word
3 "involved"?---No. Look, it is always nice to know the
4 detail before you commit yourself but, given the
5 principles that we are talking about, yes, we would
6 support it.

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

12 Is it the case that those existing processes, the current
13 regime in relation to bushfire mitigation and line
14 clearance, are reaching a point of diminishing returns in
15 relation to the improvements that it can
16 deliver?---Possibly. Certainly if you go back 20 years or
17 25 years when a lot of these processes were put in place,
18 given there was a much higher level of fire starts, it was
19 probably a lot easier to generate an improvement. When
20 you are getting down to 1 per cent of the fire starts,
21 then it becomes more difficult to see significant change,
22 unless you do go down the route of quite fundamental
23 change in the way the electricity supply is delivered.

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

31 Do you recall the power company representatives putting to you

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

5 Can I show you a document that the Commission was given by the
6 CFA. It is (CFA.001.032.0293). It is a graph of fire
7 starts relating to electrical infrastructure. You can see
8 that there are two graphs on the page. If we could just
9 have a quick look at the first one and then the second.
10 You will see the first graph deals with total fires per
11 year and the second deals with electrical infrastructure
12 fires within the fire danger period. If we could just go
13 back to the top chart, that indicates on the CFA's figures
14 509 electrical fires in 2009, electrical infrastructure
15 fires; do you see that?---I see that.

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

25 There does, though, looking just at the top chart, appear to be
26 a general upward trend, would you accept that, over the
27 last 10 years?---Over the last 10 years, in that sort of
28 middle five or six year bunch, it looks fairly consistent
29 to me. You want to delve further into the data behind
30 those numbers to find out what's led to that change and
31 how significant it is.

1 COMMISSIONER McLEOD: If you put a statistical trend line
2 through those bars it is clearly in a significant upward
3 direction, wouldn't you agree?---I would, but that's why
4 I'm a bit surprised and wanting to just know the numbers
5 behind, say - for example, 1999 would seem to be a very
6 low number, which is the second from the left. I would
7 just like to see if there was any change in reporting
8 requirements or definitional requirements in the mix. But
9 on the basis of the graph, yes, it is going up.

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

1 250 fire starts caused by electrical infrastructure. So
2 I would really need to understand why that is so different
3 from what is presented in this graph.

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

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

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

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

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

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

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

31 DR DONAGHUE: That's correct.

1 COMMISSIONER McLEOD: Which are poles and transmission lines et
2 cetera.

3 DR DONAGHUE: That's correct.

4 COMMISSIONER McLEOD: The delivery mechanisms; is that correct?

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

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

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

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

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

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

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

24 The Commission has heard evidence again in the last few days to
25 the effect that both Powercor and SP Ausnet have documents
26 that state that their existing overhead assets,
27 particularly SWER assets, are approaching the end of their
28 engineering lives or are exhibiting some end of life
29 characteristics; would you agree with that?---I would
30 agree with that. We had always thought there was another
31 10 to 15 years to go; but, yes, we would agree with that.

1 There is an inevitable time lag, isn't there, in the
2 replacement of a network of this size? So we are fast
3 approaching a position where significant investment will
4 be required in renewing the existing distribution
5 infrastructure of the distribution businesses?---Yes,
6 I believe so.

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

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

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

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

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

1 agree with that.

2 If you do that, not only do you reduce the risk of fire but you

3 also eliminate the risk that supply will be lost when fire

4 goes through a particular area?---Certainly reduce it.

5 You reduce, if not eliminate, the risk that the assets will be

6 destroyed in the fire or significantly damaged by the

7 fire?---Reduce it, I would think.

8 You eliminate the need for vegetation clearance

9 programs?---Yes.

10 And you significantly reduce the need for regular visual

11 inspections?---Correct.

12 COMMISSIONER McLEOD: And you provide essential power for

13 households and the fire services working on the fire

14 within the area?---Yes, that's correct.

15 DR DONAGHUE: Because the assets aren't affected by the fact

16 that the fire is going through?---Yes, the power supply

17 should remain continuous.

18 In recognition of the benefits of an undergrounding type

19 process it has been a requirement for many years now that

20 new urban lines are placed underground; is that

21 right?---In new subdivisions, yes.

22 When privately owned lines have to be replaced, they are

23 required to be placed underground as well?---That's

24 correct.

25 So as a matter of principle does it follow from that that there

26 is acceptance that this is a good idea, subject to the

27 cost; undergrounding of lines is a good idea, subject to

28 the cost implications?---Certainly from a safety and fire

29 point of view and, well, from many other points of view,

30 I think, yes, it is a good idea, as you say, subject to

31 the cost.

1 Powercor in its submissions to the Essential Services
2 Commission in relation to the current price period, 2006
3 to 2010, made submissions to the ESC in favour of the ESC
4 examining the undergrounding of assets; did you know
5 that?---Yes, I was aware of that.

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

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

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

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

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

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

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

31 The way in which the policy should be implemented is not black

1 and white?---Right.

2 We have heard from Mr Adams that SP Ausnet have sought a 40 to
3 60 per cent increase in their capital expenditure in the
4 next price review period. If they get that money and they
5 build new assets that are overhead assets, then that's an
6 investment that commits you to that process for a long
7 time going forward, isn't it?---Yes, it locks you in. It
8 changes the cost benefit analysis around, yes.

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

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

25 From a safety point of view, the preferred position is clear,
26 isn't it? There might be other considerations that aren't
27 safety considerations, but from a safety point of view
28 isn't undergrounding in high-risk areas the way to
29 go?---That's the qualification, in high-risk areas. If we
30 had an unlimited supply of money then, yes, what you are
31 suggesting may be the case. But what normally is the

1 situation is you have to make decisions about the order of
2 priority and how you are going to get the maximum level of
3 safety and the maximum reduction in fire risk out of the
4 amount of funds that are going to be made available.

5 But that's not a trade-off that ESV has to concern itself with.

6 That's a trade-off that the AER has to concern itself
7 with?---That's correct.

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

16 But if the existing processes, having operated for a long
17 period of time, are now getting to the point of
18 diminishing returns and we still have 185-plus maybe up to
19 509 fires a year, that focuses attention on the need for a
20 step change, doesn't it?---It does.

21 Commissioners, is that a convenient time?

22 CHAIRMAN: Yes.

23 <(THE WITNESS WITHDREW)

24 LUNCHEON ADJOURNMENT

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1 UPON RESUMING AT 2.00 PM:

2 <KENNETH ALEXANDER GARDNER, recalled:

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

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

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

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

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

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

31 But if you were to become aware of deficiencies in the

1 reliability centred maintenance analysis that suggested
2 that in fact that period is too long, that would cause ESV
3 to look again at the length of the appropriate inspection
4 cycle?---It would, yes.

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

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

25 The asterisk is explained on the next page, 0011, where it
26 reads, "These defects can be observed from the ground
27 during cyclic inspection and many cases will be reported.
28 Some attention to training of inspectors plus greater
29 uniformity of recording across Powercor should improve the
30 effectiveness. The cyclic program intervals are generally
31 too long to be fully effective, but significant risk

1 reduction is provided by the reports which should be
2 made." That indicates fairly clearly, doesn't it, that
3 even at the time of the analysis there was an acceptance
4 on Powercor's part that the five year interval was
5 generally too long?---As I have indicated, I wasn't part
6 of that process or around in the 1990s. I didn't start at
7 OCR until 2004. So my experience has really been in terms
8 of looking at the annual statistics and the failure rates
9 that are part of the analysis of the bushfire mitigation
10 plan. But, to answer your question, yes, they are
11 indicating that they are while mitigating the risks of
12 that change, there may be a better alternative.

13 They're going to miss some, indeed. The ongoing approval of
14 that five year interval really reflects an acceptance of
15 the decision made back then on an ongoing basis rather
16 than on a fresh reappraisal that's been undertaken by the
17 ESV since then?---That's correct.

18 If the five year interval is too long in relation to poll top
19 assets like a tie wire, it would follow, wouldn't it, that
20 if you have a 10 year interval because you have a
21 different kind of pole like a concrete pole, that would be
22 far worse again?---Probably. I think you would have to do
23 some analysis and it would depend where in the life cycle
24 of the pole it was. Ten years might be an acceptable
25 period in the first 10 years, but certainly once it is
26 40 years old then you would think that 10 years would be
27 sort of grossly inadequate.

28 Because if your failure mode is relating to an item of pole top
29 asset that isn't connected to the pole, it is not sensible
30 to tie the inspection of one kind of asset that might fail
31 to a feature that isn't connected to the failure mode, is

1 it?---Agreed, and that's why you would need to do the
2 analysis on each of the individual components.

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

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

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

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

25 ESV audits bushfire mitigation plans every year?---Yes.

26 This year, following the bushfires, ESV decided to conduct a
27 further audit of both SP Ausnet and Powercor's
28 assets?---That's correct.

29 Can we bring up (WIT.3020.001.1568). Can you just have a look
30 at the bottom of that letter as well. This is a letter
31 from ESV to SP Ausnet advising of the follow-up audit, is

1 that right?---That's correct.

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

3 ESV indicating that it seeks more understanding of SP

4 Ausnet's current asset management system adopted to detect

5 potentially ageing and potentially defective assets, and

6 which supports its position of taking no action in

7 relation to certain of its deteriorated assets. So this

8 is an audit that departs from your usual practices. This

9 is something extra that was being done after the

10 fires?---That's correct.

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

12 major fires had been started by distribution

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

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

15 were some issues identified in relation to rust on

16 conductors and rust on tie wires. In some instances it

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

18 recorded in the database by the inspectors and in another

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

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

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

22 satisfied with the response, so we decided that a further

23 audit concentrating specifically on that issue needed to

24 occur.

25 Indeed, in the Powercor asset the auditor had concluded that

26 the majority of rusty ties and conductors were not being

27 detected in the asset inspection process. Are you aware

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

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

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

31 If we can bring up (WIT.3020.001.1001), which is annexure 37 to

1 your statement. It is a flowchart showing the audit
2 outline and it is a little hard to read. If we can blow
3 it up so we can read the top right-hand side. Have you
4 seen this document before?---Yes, I have.

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

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

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

29 DR DONAGHUE: I'm not sure how that objection differs to what
30 I put to the witness in relation to this being something
31 that followed on from the fires?---It is both. The issues

1 were raised in the audit for this summer or last summer.
2 There was correspondence on the issue. Then this audit
3 took place.

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

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

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

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

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

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

29 IJM Consulting?---Yes.

30 That's doing the audit for all of the distribution

31 businesses?---Only two of the distribution businesses,

1 which is Powercor and SP.

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

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

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

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

28 Do you know when it is anticipated that this audit will be
29 complete?---I don't. I would have thought it would be
30 complete by now. But, as you can imagine, when you set up
31 a program where you go out in the field and you have to

1 turn off the power supply and cut down parts of the line
2 and take it away, there are obviously scheduling issues to
3 do with that, that means it has taken longer than I would
4 have anticipated.

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

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

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

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

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

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

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

30 Are you aware that SP Ausnet has moved away from the practice
31 of suppressing protection devices in relation to any of

1 its lines where it has a neutral earth resistor
2 installed?---I wasn't aware of that. I knew they were
3 doing work installing neutral earth resistors and that
4 part of the reason was to see if that was a better
5 outcome.

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

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

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

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

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

30 In light of that evidence, it is clear, isn't it, that there is
31 a trade-off that has to be made between reliability of

1 supply on the one hand and risk to the community from
2 bushfires on the other; would you agree?---There is a
3 trade-off, so you have to analyse the risks on both sides
4 of that equation, yes.

5 Indeed. The risk on one side is the risk of catastrophic
6 bushfire. That's one side of the balance?---Yes.

7 The risk on the other side is that some people who might rely
8 upon electricity for certain purposes don't have that
9 electricity for a period of time?---Correct.

10 In the context of the Powercor network there was evidence given
11 earlier this week to the effect that generally speaking
12 the outage would be somewhere between one and three hours
13 and on the Powercor network, if one assumed that half of
14 the faults that occur on a high risk day are permanent
15 faults, you would disadvantage something in the region of
16 50,000 people over the course of a whole year for
17 somewhere between one and three hours. Now, somebody has
18 to make a judgment as to whether that kind of cost is an
19 acceptable price to pay in order to minimise the risk of
20 fire starts; do you agree with that?---Somebody has to
21 make the decision, yes. I agree with that.

22 That is really a decision that involves a public policy
23 judgment, isn't it?---Public policy or in some areas it
24 might be the community, but certainly - we did discuss
25 this last time I was here, as I recall, and certainly to
26 me it is not a decision that can be made on an ad hoc
27 basis. The community or people living in certain areas
28 need to know what the possible outcome is on a certain
29 day. You can't just have the situation where the power
30 gets turned off unnecessarily if they are relying on it
31 for information or water pumps or whatever.

1 We are not talking here about turning off the power. We are
2 talking about increasing by some amount the prospect that
3 power will be lost if a fault occurs?---Correct.

4 Wouldn't it be both more certain to the community and fairer to
5 the power companies for that judgment to be made, as to
6 where the community's best interests lie, to be made by
7 the government or by Energy Safe rather than by the power
8 companies?---I mean I think that's part of the debate you
9 have to have about is this going to be a centralised sort
10 of decision, what sort of days is it going to be made on,
11 is it going to be a code red type day, when is it going to
12 happen, is it going to be on a local basis, but as you are
13 suggesting is it within a set of guidelines that
14 might - - -

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

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

31 <CROSS-EXAMINED BY MR ARMSTRONG:

1 Mr Gardner, you might remember me. My name is Armstrong.

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

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

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

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

28 Do you recall, Mr Gardner, whether one of the conclusions drawn
29 from that audit was a conclusion that there were
30 longstanding line maintenance and inspection issues which
31 the distribution companies had not addressed?---I don't

1 recall. As I've indicated, I started in 2004, so the
2 wash-up of that was sort of really over before I got
3 there, other than things to do with line heights and
4 clearance distances from tram lines. Issues like that
5 were ongoing issues that I had to deal with.

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

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

24 Is it the case, Mr Gardner, that when proposals were raised by
25 ESV that perhaps there should be a shift to an age based
26 asset replacement program rather than a condition or
27 inspection based program, the distribution companies
28 generally resisted that suggestion?---Certainly in the
29 discussion we had after the fires where we sought to sort
30 of re-open that discussion, it was generally resisted,
31 yes.

1 Before 2009, when that issue was raised, what was the company's
2 response to suggestions that perhaps the five years is too
3 long?---I am having trouble recalling specific instances
4 of where I was involved in those discussions, but
5 I certainly believe as part of that audit process those
6 sorts of issues would come up every year in terms of the
7 asset inspection cycles, particularly because, for
8 example, one of the ones that was raised this morning,
9 there were issues about the number of poles that were
10 staked and the length of time between inspections for
11 those. So it was an issue that would arise, but the
12 businesses believed that there was no evidence to justify
13 the change and that they had a process for poles that they
14 didn't think would last the distance of having a shorter
15 time span inspection.

16 Was it the case, Mr Gardner, that the basis of the electricity
17 companies' response that they considered that they had
18 adequate systems in place was, in essence, that the
19 distribution companies were inspecting the assets and that
20 the inspection process enabled them to maintain an
21 acceptable level of risk, that problems were identified
22 before they became defects and contributed to the risk of,
23 for instance, bushfire starts?---That's correct.

24 Certainly in relation to poles they would demonstrate
25 evidence of being able to identify the end life of poles
26 and the fact that they needed to be replaced before they
27 fell over, for example.

28 Just on that question of the inspection process, the basis of
29 justifying a five year cycle was that that was the length
30 of time over which it could be reasonably confidently said
31 that the pole itself, forget about the assets on the top

1 of the pole, but five years was about the length of time
2 that problems with a pole would develop and so - - -

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

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

12 CHAIRMAN: How long do you expect to be?

13 MR ARMSTRONG: About 10 minutes, Commissioner.

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

16 MR ARMSTRONG: If I can clarify for my learned friend Mr Rush,
17 I mean another 10 minutes, not another three minutes.

18 Mr Rush has just pointed out I have had seven.

19 CHAIRMAN: Keep going for the time being.

20 MR ARMSTRONG: Thank you, Commissioner. Mr Gardner, on the
21 question of inspection of conductors, if I could ask you
22 to focus on the question of conductors at the moment. It
23 is the case, isn't it, that it has been long recognised in
24 the industry that it is only possible to conduct an
25 adequate inspection of conductors from line height; do you
26 agree with that?---Adequate is - a quality inspection
27 I think you would need to conduct from line height, yes.
28 It is the case, isn't it, that there is no schedule or program
29 in place either within SP Ausnet or Powercor to schedule
30 pole top inspections for conductors other than inspections
31 which occur when there is pole top work being done for

1 other reasons?---I don't believe that's the case. I think
2 there are some other pole top inspection programs using
3 now cameras and so forth.

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

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

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

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

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

28 DR DONAGHUE: Commissioners, I object again. This witness is
29 the head of ESV. He should be being asked questions about
30 the regulatory framework or whether or not they require
31 different things to happen. If the questions are about

1 capacity to detect problems with assets, other witnesses
2 have dealt with it and this witness is not the right
3 witness.

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

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

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

17 MR ARMSTRONG: I understand, Commissioner.

18 CHAIRMAN: So prioritise. Prioritise.

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

27 Has ESV, in the course of approving the ESMS policies or the
28 bushfire mitigation plans, made inquiries of the
29 distribution companies regarding what is actually involved
30 in the description of an inspection?---In the audit
31 process, then that is the sort of issue that's covered.

1 That's why there is a follow-up audit being undertaken,
2 because the question is: is the information that's
3 available, can you make the judgments that are being made
4 based on that information. So it is the sort of issue
5 that is discussed and falls out of that audit and
6 inspection process.

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

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

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

31 Would you answer the question?

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

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

9 MR ARMSTRONG: Nothing further, Commissioner. Thank you.

10 <CROSS-EXAMINED BY MR GOETZ>:

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

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

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

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

29 And the trends that were identified and at that low level, were
30 explanations sought from Powercor on that topic?---They
31 were.

1 And Powercor provided you with explanations in that
2 regard?---In terms of the in-service failures, yes.
3 The last question is this: Dr Donaghue asked you about some
4 perhaps increasing trends in rusting on tie wires. Did
5 you hear that question?---I did, yes.
6 How would you describe the health of the tie wires in the
7 Powercor network?---That was one of the issues that came
8 out of the audit that required follow-up, that there were
9 instances where the auditor's observations weren't
10 consistent with what had been recorded.
11 Am I correct in saying, this is the last question, that the
12 recommendation from ESV on that topic to Powercor was that
13 the way to address that issue of the rusting ties is for
14 there to be improved education of the inspectors?---That's
15 correct.
16 Thank you.
17 DR DONAGHUE: No re-examination. May Mr Gardner be excused.
18 CHAIRMAN: Yes. Thank you, Mr Gardner. You are excused.
19 <(THE WITNESS WITHDREW)>
20 MR RUSH: Commissioners, I call Mr Gersh.
21 MR HORGAN: If the Commissioners please, I appear on behalf of
22 Electrix Pty Ltd, the employer of Mr Gersh, with leave.
23 My name is Horgan.
24 CHAIRMAN: Yes, thank you.
25 <PETER FRANK GERSH, affirmed and examined:>
26 MR RUSH: Mr Gersh, your name is Peter Frank Gersh?---That's
27 correct.
28 You are the manager of Electrix activities as far as it
29 concerns the qualification and running of line inspector
30 courses and the implementation of their work?---I manage
31 the work that they do, yes.

1 You, with the assistance of solicitors to Electrix,
2 Clayton Utz, have prepared a statement for the giving of
3 evidence at the Royal Commission?---That's correct.
4 I think you want to make a change to the statement?---I do,
5 yes. In paragraph 8 there is a double mention to basic
6 first aid training, it's doubled, so I would like to
7 remove item (m), please.
8 Thank you. With that redaction, can you say the contents of
9 your statement are true and correct?---Yes, I can.
10 I tender the statement of Mr Gersh.
11 #EXHIBIT 561 - Witness statement of Peter Frank Gersh
12 (WIT.7527.001.0001).
13 MR RUSH: The asset inspectors with Electrix are required to
14 hold a certificate of competency. Who issues that?---It
15 is issued by the Gippsland TAFE.
16 Is the position this. I'm just going to ask you some pretty
17 general questions. A person will make application to
18 Electrix to become a line inspector?---Correct.
19 Then there is an initial training course?---Correct.
20 What you set out at paragraph 5 of your statement is the
21 modules that are required to be undertaken in the initial
22 training course?---That's correct.
23 Where are they and how are they undertaken?---They are
24 undertaken by a registered training authority on our
25 behalf.
26 Who is that?---That is - sorry.
27 I think you may refer to them later on?---As ETD, that's
28 correct.
29 Is that a matter of some form of classroom instruction and then
30 assessment?---It's more classroom instruction. It is in
31 relation to the industry, the Electrix and Powercor's

1 requirements for a person to be able to access their
2 assets, so it is predominantly based on the health and
3 safety aspects of being in the field.

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

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

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

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

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

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

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

21 At Chadstone?---That's correct.

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

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

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

31 You say they go out into the field with a field training module

1 booklet?---That's correct.

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

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

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

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

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

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

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

1 two-man parties.

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

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

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

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

29 Are they done on a formal basis as in a requirement on a
30 regular routine?---Some of those are governed by the
31 industry standards and some are our own.

1 So over what period of time are people required to - -
2 -?---Depending on the actual category, some of them are
3 done every 12 months, some every two years and some every
4 three years.

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

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

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

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

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

31 You may have heard just some of the examination of Mr Gardner

1 suggesting that that pole top inspection and tie wire
2 inspection cannot be properly done unless one is on an
3 elevated platform. You, I take it, would agree with
4 that?---Not entirely, no. I think with the use of
5 stabilised binoculars and assuming that the conditions are
6 such, you can get a reasonable idea of the condition of
7 the conductor.

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

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

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

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

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

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

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

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

1 heavy rust stains on the insulator?---That's correct.
2 It goes on, "Heavy dark red rust on the tie and insulator is
3 substantially a result of vibration and not of simple
4 unaided corrosion." From your experience that statement
5 would also be correct?---I don't have a lot of experience
6 in relation to analysing that, but I think that's a fair
7 statement.
8 That's what your lines inspectors are trained to
9 understand?---Correct.
10 "It is this action which will lead to the tie wearing away
11 until it breaks. The dark red rust is produced, at least
12 in part, by rubbing action on the steel. Steel ties can
13 be broken by conductor pull, but they are generally so
14 strong that breakage rarely takes place unless it has also
15 worn away by vibration. Because vibration is the major
16 contributor to tie breakage, it much more often occurs on
17 the tightly strung long spans in open, flat country." So,
18 your lines inspectors would be on the look-out for that
19 sort of evidence of fatigued or rusting tie wires,
20 particularly where it relates to long spans and
21 particularly in relation to open country?---Correct.
22 That's the way they're trained?---That's true.
23 You mentioned that in relation to tie wires you are looking at
24 methods or attempting to adopt methods to better the
25 inspection of pole tops. Can you indicate what you are
26 looking at?---We are basically looking at a much higher
27 quality pole camera situation where we can get the
28 resolution to have a much better look at it from actually
29 at the pole top, and also from various angles. I think
30 the other thing that we hope to put on that is a scale on
31 the video output of that so we can actually be able to

1 measure the diameter and determine if there has been
2 significant reduction in the diameter of the tie. We are
3 not quite there yet, but we are not far away.

4 They are the matters, Commissioners.

5 <CROSS-EXAMINED BY MR TOBIN>

6 Mr Gersh, my name is Tobin and I appear on behalf of various
7 victims. Your inspections are in accordance with
8 the program that's been dictated to you by SP Ausnet and
9 by Energy Safe Victoria; is that correct?---No,
10 our procedures- - -

11 For Powercor, sorry?---Are Powercor based, that's correct.

12 You agree that the camera does not give you a capacity to get a
13 good viewing of the pole so as to look at a lot of
14 structures on the top of the pole?---It gives us a view
15 but I don't think it has a resolution to enable an
16 accurate assessment to be made.

17 You also in your guide or the handbook say that stabilised
18 binoculars do not permit you to view a number of areas of
19 possible fracture on the top of the pole?---We inspect the
20 pole top from four different positions, three being around
21 the outside and one from underneath. Stabilised
22 binoculars rely on you having a clear line of sight to
23 that particular spot you are looking at.

24 The manual says stabilised binoculars permit asset inspectors
25 to record a high percentage of broken ties but some breaks
26 will be at locations not visible from viewing
27 angles?---Correct.

28 So therefore there are a number of situations where there can
29 be breaks on the top of the pole top structure where your
30 inspection process cannot detect them?---Theoretically
31 that's correct.

1 And factually that's the situation too, isn't it?---I think if
2 the tie wire is broken, it is fairly obvious from using
3 stabilised binoculars.

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

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

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

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

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

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

29 So if there are failures within the system, particularly
30 failures from broken tie wires, corrosion and matters of
31 that nature, it means the system of inspection that's in

1 place is a system which is not affording sufficient
2 information to cause rectification?---Yes, that's true.
3 On Black Saturday we know that there were five fires caused by
4 Powercor assets and many failures in those assets from
5 corrosion and broken ties. To the extent that those
6 matters occurred, you have not been subject to any
7 criticism of not doing what you are expected to do on
8 inspection; is that correct?---No, we haven't.
9 Insofar as the Remlaw powerline - are you familiar with that
10 spur line, the Remlaw spur line?---I haven't seen it, no.
11 But familiar with what was observed there from time to time and
12 the fact the fire came from a pole top structure falling
13 at that level?---I am aware of that, yes.
14 The evidence before the Commission in relation to that is that
15 there was a failure some two years prior to 7 February of
16 a power top structure, a failure on the day of a power top
17 structure and in inspection in July of 2009 three further
18 pole tops had broken ties on them. Now, to that extent
19 you haven't been criticised in relation to your inspection
20 of that line; is that correct?---No, we haven't.
21 And the fact that there have been five failures in that line of
22 approximately 15 active poles over a period of four years
23 is not something that your inspection process was able to
24 detect; is that correct?---I'm not sure if we inspected
25 them within the period that you are saying, so I can't
26 answer that.
27 Would it be correct to say that from your work as a company do
28 you do any post-mortems of inspections to determine
29 whether failures are occurring at a greater age with the
30 age of the product?---Not specifically in any other area
31 than pole failures. The failure of attachments or other

1 bits and pieces are beyond our capability, but we
2 certainly get very involved in the assessment of any pole
3 failure.

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

9 Not only is it getting older, but the failure rate in relation
10 to poles between 1955 and 1970 is approximately
11 50 per cent higher than poles of other ages. Are you
12 aware of that type of statistic?---No, I'm not.

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

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

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

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

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

27 <CROSS-EXAMINED BY MR HORGAN:

28 Mr Gersh, Mr Tobin has just mentioned pole failure and Mr Rush
29 mentioned pole failure earlier this morning. In addition
30 to the developments that you have indicated in relation to
31 the mobile form of pole top camera, are there any steps

1 being taken in relation to pole failure?---Yes. There is
2 a school of thought that the termite population is
3 actually moving more southward and also that the testing
4 that we do or the treatment that we do of poles around the
5 ground level is actually forcing termites to go lower and
6 therefore difficult to detect. So we are experimenting at
7 the moment and hope to run some trials early next year of
8 actually using dogs that have proved very effective in
9 determining where termites are or not, so we have been
10 talking to some dog trainers and we think that's a
11 possibility.

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

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

22 Nothing further. May the witness be excused?

23 MR RUSH: Can the witness be excused, Commissioners.

24 CHAIRMAN: You are excused, Mr Gersh.

25 <(THE WITNESS WITHDREW)

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

28 <MAURICE KEVIN BRADEN, sworn and examined:

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

31 Do you have two roles in that company? Since 2006 you have

1 managed the Telstra pole inspection contract for
2 UAM?---That's right.
3 And you are also responsible for training asset inspectors
4 together with one of your colleagues?---That's right.
5 Amongst other training, yes.
6 You have made a statement for the purposes of the Royal
7 Commission in relation to the training of asset inspectors
8 by UAM dated 24 November?---Yes.
9 Is that a true and correct statement?---Yes.
10 I tender that statement.
11 #EXHIBIT 562 - Statement of Maurice Kevin Braden
12 (WIT.7531.001.0001).
13 MS NICHOLS: Mr Braden, is it correct that you first came to
14 the electricity distribution industry in the year
15 2000?---That's right.
16 Prior to that you had worked with Telstra?---That's correct.
17 In 2000 for about six months you worked on and off with another
18 asset inspector whilst as a labourer and trainee inspector
19 whilst deciding whether or not you wanted to join the
20 industry?---That's correct.
21 Your supervisor was a man by the name of Darren
22 Forrester?---That's right.
23 After that in February 2001 you did a training course at UAM's
24 head office?---Yes.
25 That was run by Mr Dennis Clarke?---That's correct.
26 And for how many days did that course run?---It ran for about
27 three, I believe.
28 That was the first time that you had done any training in asset
29 inspection?---Formal training, yes.
30 But before that the only introduction you had had to the
31 electricity distribution business was your six months on

1 and off as a labourer and trainee inspector?---That's
2 correct.

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

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

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

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

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

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

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

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

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

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

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

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

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

30 Your work as an asset inspector has been the following: You
31 worked for one and a half years in Melbourne with

1 UAM?---North-east Victoria.

2 Then when you were transferred to Queensland you worked for
3 Ergon for about 10 months?---For UAM on the Ergon
4 contract, yes. That's correct.

5 Since 2002, following that, you have really had operational
6 roles, operations roles in the electricity distribution
7 business?---That's right.

8 So, you worked in 2002 as the operations manager for UAM in
9 Sydney?---Correct.

10 And in 2004 you went back to Scoresby where you supervised the
11 contract for private electric lines?---That's right.

12 And in 2006 you commenced your current role supervising
13 managing the Telstra contract?---Correct.

14 So in those roles you did not work as a line inspector
15 yourself, did you?---Yes, I did, on and off.

16 On and off?---Yes. I spend time in the field every year.

17 But your main job is more of an operational role, isn't
18 it?---Correct.

19 Meaning a management role?---Yes.

20 You have some training qualifications. You got a certificate
21 IV in March 2006?---That's right.

22 And that's a training qualification rather than a technical
23 qualification in the electricity distribution business or
24 its assets?---Yes, Cert IV workplace trainer and assessor.

25 You have done some training for Ergon Energy and for AGL on
26 behalf of UAM?---Yes.

27 And you also achieved a registration for workplace assessor
28 training with the Industrial Safety and Environmental
29 Services company?---That's correct.

30 UAM has since 2006 trained its asset inspectors
31 internally?---That's correct.

1 You have done most of that training yourself?---Done the
2 majority of it, yes.

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

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

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

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

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

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

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

20 So there was no-one else at UAM who checked or decided that
21 that course outline was appropriate; you were the one
22 responsible for that?---Well, in conjunction with Colin
23 Gill, who has been in the electricity industry over
24 20 years, I suppose, and he was actually involved with the
25 course.

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

30 There was no external auditing or checking by a body or person
31 other than UAM of the content of that course

1 outline?---I believe that course outline had actually been
2 presented to SP Ausnet and okayed.

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

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

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

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

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

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

22 Had delivered to you?---Yes.

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

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

31 Then there is several weeks of in-field training by the

1 particular asset inspector with a qualified
2 inspector?---Inspector or inspectors, yes.

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

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

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

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

14 You did his training?---Yes.

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

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

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

29 Can I ask you about refresher training. It has been mentioned
30 a few times, but can you tell me whether that involves a
31 set syllabus or program?---Some of it is. Some of it,

1 like the first aid, manual handling, some of that stuff is
2 on a 12 month basis, some two years, but the refresher
3 training, the whole course isn't covered again, obviously,
4 but selected parts of it are. That will be determined by
5 some audit results or SP Ausnet may have some input into
6 areas they want covered off.

7 Who teaches that?---SP Ausnet may present that. I have
8 presented at some. Supervisors will present some of it.
9 Auditors will present some of it.

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

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

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

18 A full day course once a year?---Yes.

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

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

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

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

30 What steps did you take to satisfy yourself about whether
31 Mr Leech had satisfactorily completed his

1 training?---I was happy enough with the classroom stuff
2 and the theory was fine.

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

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

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

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

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

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

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

30 The problem with it, if one accepts some of the evidence that's
31 been given in the Commission, is that it was not sitting

1 as it should have been in the thimble?---(Witness nods.)
2 Now, that kind of fault, you say had you detected that in the
3 field you would have reported because it wasn't sitting as
4 it should have been?---If I had have detected it, yes.
5 Despite the fact that you say it was an uncommon fault, it is
6 the kind of fault, is it not, that can be generally
7 described as the equipment or pole furniture not being
8 properly aligned?---It may not have been sitting in the
9 thimble, but it may well have still been straight. I mean
10 it may not have distorted the conductor, or whatever, so
11 there may be no sign to the inspector that that's out of
12 it.
13 Just to generalise, that kind of fault is really about the
14 equipment not being set up on the pole top in the way that
15 it should be set up?---Yes. So it would be something out
16 of the ordinary, yes.
17 You say that when you did your training it was never brought to
18 your attention?---Certainly wasn't.
19 But you also agree that, now that it has been brought to your
20 attention, it should be included in the training for your
21 line inspectors?---Yes, I do.
22 And it will be included within SP Ausnet's training?---Yes.
23 You also say in your statement that a preformed wrap loop that
24 had become derailed from the thimble might not be obvious
25 to an inspector inspecting from ground level, particularly
26 because it is an extremely uncommon fault and might not be
27 readily visible?---That's right.
28 Do you agree that asset inspectors should be equipped and
29 trained to do more than detect common or obvious
30 faults?---Well, I believe that they are. It is a matter
31 of fact whether they see them.

1 But you agree with that proposition, that they should be
2 equipped to do that?---Yes.

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

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

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

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

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

30 That kind of training would involve knowing what to look
31 for?---We're looking for anything out of ordinary.

1 Yes, but being familiar enough with the way in which the
2 components fit together to know when something isn't
3 sitting as it should be?---If it's not sitting as it
4 should be, that would be right.

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

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

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

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

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

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

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

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

29 What do you mean by "training with regard to pole top
30 hardware"? What do you direct that training to?---All
31 aspects of the pole top, so the pole itself, pole caps,

1 cross-arms, cross-arm braces, king bolts, insulators.
2 But you don't train in relation to all parts of the pole top
3 infrastructure, only some; is that right?---No, all parts
4 of the pole top.
5 Well, you didn't provide training at least to Mr Leech,
6 I suggest, that enabled him to detect whether that
7 particular matter should have been reported, the type of
8 defect we have just discussed?---No, I believe had he seen
9 that he would have reported it.
10 You say that the helical termination was not brought to your
11 attention when you did your training?---Not that
12 particular - - -
13 MR RAY: We object to that question. The fact is whether the
14 specific reference is made to a clevis or a thimble or a
15 helical wrap is one issue. My understanding is this
16 witness has given very clear evidence that the training
17 was sufficient to detect defects or departures or
18 abnormalities, so it would be wrong to suggest that the
19 training did not equip Mr Leech to detect such things.
20 MS NICHOLS: I will continue, Commissioners.
21 CHAIRMAN: I still think it is appropriate, even though its
22 relevance may be very limited, to ask the question that
23 was asked.
24 MS NICHOLS: Ultimately it is a matter for the Commission. But
25 I will continue, Mr Braden. You say in your training that
26 the helical termination was not brought to your
27 attention?---No, the helical termination is, but the
28 clevis and the thimble is not.
29 Yes, the clevis and thimble is not. I beg your pardon. So,
30 given that it wasn't brought to your attention when you
31 did your training, I suggest that when you conducted the

1 training which really required you to draw on your own
2 experience and the SP Ausnet line manual, that you weren't
3 in a position to draw your trainee's attention to that
4 mechanism?---To that particular mechanism, but we would be
5 able to draw him to a defect. If something's not right,
6 if something's not sitting in something right, it's a
7 defect.

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

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

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

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

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

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

29 Can I ask you to look briefly at this document,
30 (WIT.7507.002.0029). This is an extract of your training
31 course?---Correct.

1 Can I ask you to look at the conductor section, which is down
2 the bottom of the page?---Yes.

3 The description there is, "Because conductors can deteriorate
4 over the whole span, it is not practicable for your work
5 to pick up much in the way of general deterioration."
6 Going down to the second dot point, "Steel is prone to
7 single strands breaking and unwinding. We think this is
8 lightning damage. It usually happens well out in the
9 spans, so the best you can do is quickly scan along each
10 span when you inspect the pole." Do you say that that
11 latter part that I just read you is an appropriate
12 instruction for trainee asset inspectors?---The word
13 "quickly" is probably unfortunate, but they are all taught
14 to look along the line with their binoculars.

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

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

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

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

28 "Report any broken tie as priority 2. Often there are a couple
29 of turns of the tie around the insulator neck still
30 restraining the conductor from jumping out, so it is
31 rarely urgent. Only if the conductor looks as if it is

1 free to jump out should it be reported for priority 1 or
2 prompt action." Is that an appropriate instruction?---Yes,
3 it is.

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

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

21 The inspection of tie wires and other aspects of pole furniture
22 requires in some instances the line inspector to make a
23 relatively sophisticated judgment, does it not, about the
24 condition of the infrastructure?---Yes.

25 The training should, ideally should, equip a line inspector to
26 do so?---Yes.

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

30 Can I ask you briefly about your auditing process. Mr Leech,
31 as you may know, failed two audits, one in December 2006

1 and one in December 2008. Are you familiar with
2 that?---I'm not aware of that.

3 Let me ask you this: when an external audit, at least in the
4 case of SP Ausnet's contract, is received by UAM, you then
5 have your own auditors go and check that result; is that
6 right?---I believe that's the process.

7 And who does that at UAM?---That would be either Ian Brown or
8 Colin Gill.

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

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

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

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

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

24 Those are the matters, Commissioners.

25 <CROSS-EXAMINED BY MR TOBIN:

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

31 And the inspections that you undertake are undertaken in

1 accordance with the SP Ausnet manual?---That's correct.
2 There is no specific training or mention in relation to thimble
3 and clevis defects?---That's correct.
4 It is for that reason that you say at paragraph 37 that you
5 could not expect a person trained as was Mr Leech to
6 detect that fault?---It may not be obvious.
7 If SP Ausnet specified a different regime or a different
8 quality of inspection or training, your company would
9 comply with that, would that be correct?---Correct.
10 They in fact dictate the training that your inspectors must
11 have and what they must inspect?---That's correct.
12 Finally, within your manual and within your training, is it
13 correct to say that there is no reference to inspection by
14 reference to age, span, vibration or risk profile of a
15 line; you inspect each line the same, irrespective of what
16 its profile may be?---Correct.
17 <CROSS-EXAMINED BY MR RAY:
18 Mr Braden, I suspect you know that I represent Utility Asset
19 Management?---Yes.
20 A couple of questions that I just want to put to you. You have
21 indicated in your statement at paragraph 10 that the
22 process of asset inspection in Queensland has some
23 differences. You highlight also that there are some
24 differences elsewhere, for example in the Integral Energy
25 manual. Those differences recognise separate local
26 conditions, don't they?---They do.
27 For example, in Queensland there are some specific issues about
28 termite infestation and rotting advancing quicker because
29 of the climate?---Yes. That's correct.
30 Similarly, as referred to elsewhere, there are different
31 demands and requirements in relation to the use of

1 different pole treatments?---That's right.

2 If we can move specifically - there is no need to go to

3 it - but of course you have referred to an understanding

4 that the SP Ausnet manual and the materials were being

5 presented to the asset inspectors with the knowledge and

6 authority of SP Ausnet. You know of course at the front

7 of the manual there is a reference to the various authors

8 with revisions of the manual?---That's correct.

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

10 And that subsequently Mr Costolloe's name appears in that same

11 area?---That's right.

12 You refer at paragraph 29 of your statement as follows: "In

13 2006 Colin Gill and I trained three inspectors in Victoria

14 for SP Ausnet. I also trained two in the ACT for

15 ActewAGL. Gipps TAFE issued certificates for the two

16 ActewAGL trainees that we trained." I suspect you don't

17 know who signed those Gipps TAFE certificates?---I don't

18 know whose signature is on the certificate, no.

19 You have not seen it?---No.

20 But was there, prior to that signing, a person from Gipps TAFE

21 who attended and spoke to you and gained an understanding

22 of the course content and what you were doing for the

23 training?---Yes, there was.

24 That enabled that person to authorise the signature and

25 therefore the endorsement of Gipps TAFE on the training

26 package?---Yes.

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

28 I should indicate to the Commission that I did not know that

29 last week when I cross-examined Mr Barnbrook. Otherwise,

30 it would have been expressly put. So I apologise, but I

31 didn't know.

1 Mr Barnbrook attended, he looked at your course
2 content?---Looked at the course content. We sat in the
3 Scoresby office for probably over an hour and we just went
4 through the theory side of things and what we would
5 present and what we wouldn't and we then went out into the
6 field and we looked at the process out in the field, what
7 sort of questions we would ask the trainees, and just made
8 sure basically that we had ducks lined up in a row as far
9 as paperwork and whatever for an asset inspection course.
10 He understood what you embarked upon for the on-site inspection
11 and the practical testing that was to occur?---Yes.
12 It was subsequent to that that Gipps TAFE authorised those two
13 trainees that you trained?---Yes.
14 If we can move on from that, at paragraph 31 you confirm as
15 follows, "Jason Leech completed his initial training at
16 this time and I was satisfied with the standard." And you
17 refer, of course, as you did earlier, to the certificate
18 of completion not being signed?---Yes.
19 You refer to the On the Job Training Package. Perhaps to save
20 time I can put it in a summary fashion without the
21 document being brought up. The training package refers to
22 16 different on job training tasks; do you recall
23 that?---That's correct.
24 And that many of those tasks are broken down into four separate
25 occasions within each task; is that right?---That's right,
26 yes.
27 It has been put previously that it seems a bit unusual that you
28 have to get to task 15 before there is reference to
29 conducting four pole top inspections. What do you say
30 about that?---That's probably a little bit misleading. We
31 do pole top inspections on every pole we inspect. The

1 16 points are just there to make sure we tick off on every
2 one of those little aspects.

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

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

14 Who is LW?---LW is Lyndon Walsh.

15 Who is he?---He is a qualified asset inspector. He was the
16 mentor.

17 There is also a CMcQ. Who is that?---That's Cameron McQuillan.
18 Who is he?---He was the auditor at the time.

19 What is he doing now?---He is SP Ausnet's external auditor.
20 So the assessors and the external auditor who was then the
21 internal auditor approved of and passed Jason Leech in the
22 course of his study?---That's correct.

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

28 You have not heard of a failure based on that
29 misalignment?---That's correct.

30 It is clear that this has been brought to your
31 attention?---Correct.

1 I think you have said previously, but if we can have some more
2 detail on it. Is it your intention to make sure that for
3 any training you do from this moment onwards you will
4 introduce this as a potential failure mechanism?---Yes,
5 given the light of the last - the events, yes.

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

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

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

20 Obviously you would regard that as a fault?---(Witness nods.)
21 What priority would you give that?---That would be a priority
22 1.

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

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

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

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

31 Assume then that the curled piece of wire has, through wind

1 motion, vibration, whatever, has in fact broken off so you
2 have a three strand conductor reduced to two?---Yes.
3 You would expect the inspectors that you train to detect that
4 in an inspection at a pole top, wouldn't you?---Yes.
5 And you can see that because of the diminished size of the
6 conductor?---Yes.
7 Could the witness now be shown (VPO.001.039.0215). Do you see
8 before you a photograph which we understand is a
9 reconstruction of the helical termination that is
10 incorrectly sitting in the thimble. It is in relation to
11 that that you say, I think, at your paragraph 37 that it
12 might not be obvious. Why do you see that such a defect
13 may not be obvious to an asset inspector?---If that was on
14 the top side, the bottom side is going through, then you
15 just won't see it from the ground.
16 If, as you said earlier, it had been seen, though, it clearly
17 should be reported?---Yes.
18 If you as an asset inspector saw that, what priority would you
19 give it?---I would give it a priority 2. I mean, the
20 conductor is still restrained. As long as all those pins,
21 W clips on the insulators were in place. If it is
22 restrained, it is a priority 2.
23 So that would then be relayed to the asset owner, in this
24 circumstance SP Ausnet?---Yes.
25 And the category that you give it or an asset inspector gives
26 it is then subject to review back at SP Ausnet?---That's
27 right.
28 So they may well observe that and disagree, if it was
29 seen?---That's right.
30 It was put to you by counsel assisting a short time ago that of
31 course, as reflected in your statement, that the manuals

1 of Ergon, Integral, Telstra and ActewAGL do not contain a
2 description or reference to a clevis and thimble assembly
3 defect?---That's correct.

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

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

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

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

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

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

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

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

29 Have they since?---It is readily available, but they didn't at
30 the time. They do now. We include all our overhead
31 slides as hard copies and everything to do with the course

1 goes into a folder and they receive it now.

2 So what instruction do you give about the way in which asset
3 inspectors should look at the conductor as they visually
4 look along the line moving away from the pole?---They
5 should scan the whole length of the span with their image
6 stabilised binoculars. If they don't get the whole span
7 from one pole, they get the other half from the next pole.

8 So you certainly would not encourage such a process to be
9 described as, "The best you can do is have a quick scan
10 along"?---No, probably unfortunate use of word.

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

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

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

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

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

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

27 Just finally, could the witness be shown (WIT.7507.002.0080).
28 While that's being brought up, the asset inspectors are
29 assisted to understand the PDE worksheets that they are
30 going to utilise when they are out in the field, aren't
31 they?---Yes.

1 Would you look at that document in front of you. Do you see at
2 the top of the page there is a description of the item
3 that appears in the column below it?---Yes.
4 That is, on the left-hand side under "Plant description" you
5 have "Stock"?---Yes.
6 And underneath "Stock" it lists the hardware that the
7 inspectors are entitled to expect when they visit a
8 particular pole?---That's correct.
9 Along from that there is a map reference number?---Yes.
10 And along from that there is a maintenance reference, isn't
11 there?---Yes.
12 So that if one saw a defect as such, that's where you would
13 record it?---Yes, that's right.
14 Would you look down to the second bottom entry and it is the
15 entry we understand that relates to pole 39. Do you see
16 that?---Yes.
17 You see that there is reference to Pentadeen pole 39 at
18 Glenburnie?---Yes.
19 And in type there is reference to the stock that the inspector
20 would expect to appear at the scene?---Correct.
21 And that refers to what? Can you see that?---Yes, "One by
22 insulator brown pin, two by guys ground", and he has added
23 in there "four by insulator grey disc".
24 Yes. That reference to different stock, as a person accustomed
25 to asset inspection, does that give you comfort that of
26 course that pole was attended and was the subject of an
27 appropriate inspection to refer to that difference?---Yes.
28 Would you expect a properly trained inspector to not only note
29 the difference but, because there was a difference,
30 closely inspect the asset at the top of the pole?---Yes.
31 Because, if it is different, it may well be that the asset is

1 loose in some way or not properly adjusted?---Correct.
2 So you would expect that to occur?---I would expect that to
3 occur at every pole.

4 Thank you. They are the matters.

5 <RE-EXAMINED BY MS NICHOLS>

6 Two very brief matters. Can you have a look at the sheet which
7 is on the screen in front of you. You will see on that
8 page that on approximately half of the entries on that PDE
9 workshop there is the handwritten entry of Mr Leech making
10 a change to the record of what the assets are. For
11 example, with the second last entry that you were taken
12 to, there was a notation that there was one insulator and
13 the handwritten entry is four insulators?---That's right.

14 Do you have any explanation for why it is that on a significant
15 number of entries on that page, and I can tell you that
16 they appear throughout that PDE worksheet, that the record
17 of what assets are there is different from the starting
18 point which is on the PDE worksheet?---That area may have
19 been, when it was inspected before, sometimes there wasn't
20 a requirement to pick up, say, grey discs or whatever, so
21 the utility will change their mind sometimes as to what
22 they want to pick up as stock.

23 So might it be that the base records on which that inspection
24 was being done were out of date?---Well, they didn't
25 reflect the grey disc insulators, that's correct.

26 And might it be that an inspection hadn't been done for some
27 time? Can't say?---I can't say.

28 One more matter. You told your counsel before that you did not
29 hand out the course outline. However, Mr Leech says in
30 his statement prepared by UAM's lawyers for this
31 Commission that he did receive the very course outline we

1 were looking at before, and you have no reason to be able
2 to contradict that, do you?---No. There's plenty of them
3 copies around. It is not a controlled or protected
4 document.

5 Nothing further, Commissioners. May Mr Braden be excused?

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

7 <(THE WITNESS WITHDREW)

8 MS NICHOLS: There are no further witnesses today,
9 Commissioners.

10 COMMISSIONER McLEOD: Congratulations.

11 CHAIRMAN: We will adjourn now until 9.30 on Monday.

12 MS NICHOLS: In the annex.

13 CHAIRMAN: In the annex, yes.

14 ADJOURNED UNTIL MONDAY, 30 NOVEMBER 2009 AT 9.30 AM

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