
TRANSCRIPT OF PROCEEDINGS

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2015/16 HAZELWOOD MINE FIRE INQUIRY

MORWELL

TUESDAY, 1 SEPTEMBER 2015

THE HONOURABLE BERNARD TEAGUE AO - Chairman

MRS ANITA ROPER - Board Member

PROFESSOR JOHN CATFORD - Board Member

MR PETER ROZEN - Counsel Assisting

MS RUTH SHANN - Counsel Assisting

MR RICHARD ATTIWILL QC - State of Victoria

MR ANTHONY NEAL QC - GDF Suez

MS MARITA FOLEY - GDF Suez

MR CHRIS BLANDEN QC - Dr Rosemary Lester

MS KATE BURGESS - Dr Rosemary Lester

MS MELANIE SZYDZIK - Voices of the Valley

MS MEGAN FITZGERALD - Voices of the Valley

MR RAY TERNES - Voices of the Valley

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1 CHAIRMAN: Good morning and welcome to the opening day of public
2 hearings in Morwell. Today is the first of two, perhaps
3 three, days here and it marks the start of the second block
4 of hearings for the reopened Hazelwood Mine Fire Inquiry.

5 I acknowledge the traditional owners of the land on
6 which we are gathered, the Gunai Kurnai, and I pay my
7 respects to their elders, past and present.

8 The Victorian Government has given the Board of
9 Inquiry a broad mandate to examine a number of areas.
10 Paragraph 6 of the terms of reference will be the focus of
11 attention of these public hearings. We are requested to
12 respond upon whether the Hazelwood Coal Mine fire
13 contributed to an increase in deaths having regard to any
14 relevant evidence for the period 2009-2014.

15 Through the written submissions that we have
16 received, and through our conversations with the local
17 community, we are aware that this is an issue that people
18 are concerned about, but we are also aware that there are
19 some people who wonder why the Inquiry has been reopened
20 and why we are here today. The 2014 Inquiry investigated
21 the origins of the Hazelwood Mine fire and how effectively
22 the mine operator and government responded, and that
23 included looking at the impact the fire had on people's
24 health and wellbeing.

25 Following the submission of the Inquiry's 2014
26 report, further concerns were raised by the community about
27 the potential health impacts the fire was still having on
28 people's lives in the community and the Victorian
29 Government reopened the Inquiry on 26 May of this year.

30 During these hearings, we will hear from a number of
31 parties and we hope to have an open public exposure of many

1 things.

2 The evidence will be presented by counsel assisting,
3 Mr Rozen, and Ms Ruth Shann, board member Professor John
4 Catford, Mrs Anita Roper and I will be listening today and
5 tomorrow to the evidence.

6 We place great emphasis on openness. Our website
7 reflects that. We encourage all to go to our website to
8 look at the written submissions and, from tomorrow, the
9 statements of witnesses and a transcript of their
10 testimony. Today we just plan to listen with an open mind.

11 I now introduce Professor John Catford to say a few words.

12 PROFESSOR CATFORD: Thank you, Justice Teague. Good morning.

13 Let me add my welcome and thanks to you all for attending
14 these public hearings. As we will hear from counsel
15 assisting the Inquiry, Mr Peter Rozen and Ms Ruth Shann,
16 our focus today is reviewing the background and chronology
17 of events following the closure of the previous Hazelwood
18 Mine Fire Inquiry and that has led us here today.

19 Tomorrow we will hear from experts about their views
20 on the data about rates of death in Latrobe Valley over
21 2009-2014 and whether the data indicates whether the fire
22 did indeed have an impact on the rates of death in the
23 Latrobe Valley.

24 We extend our thanks to the many people who have been
25 involved in the Inquiry to date, providing information and
26 evidence, and we also recognise the many members of the
27 community taking time to participate by providing
28 submissions, attending community consultations and
29 listening to the materials presented as part of the
30 hearings.

31 So commencing today, the focus of the Inquiry, held

1 by counsel assisting, Mr Rozen and Ms Shann, will be on the
2 background to show how the issue was raised by Voices of
3 the Valley, the data that has been obtained by the Inquiry
4 from the Registry of Births, Deaths and Marriages, the
5 response of the Department of Health and Human Services and
6 relevance of the long-term health study being conducted by
7 Monash University.

8 So for us, as mentioned by the Chair, we will be
9 listening with open minds. Mr Rozen.

10 CHAIRMAN: Is it appropriate that I take appearances and then
11 just indicate what you will be doing?

12 MR ROZEN QC: Yes. I was going to suggest that. I do have some
13 brief opening remarks, but I should indicate that I appear,
14 together with Ms Shann, to assist the board.

15 MR ATTIWILL QC: I appear on behalf of the State of Victoria.

16 MR NEAL QC: I appear with my learned friend Ms Foley on behalf
17 of GDF Suez Australian Energy.

18 MR BLANDEN QC: I appear with Ms Burgess on behalf of Dr
19 Rosemary Lester.

20 MS SZYDZIK: I appear with Ms Fitzgerald and Mr Ternes on behalf
21 of Voices of the Valley.

22 CHAIRMAN: I understand that it has been arranged that there
23 will be short openings - a longer one by you and then short
24 openings on behalf of those who choose to make short
25 openings. Thank you, Mr Rozen.

26 MR ROZEN: Thank you, Chairman. Members of the board, the
27 Hazelwood Coal Mine fire burned for 45 days in February and
28 March of 2014. The first Hazelwood Mine Fire Inquiry
29 report, in August 2014, concluded that on many of those
30 days, people in Morwell breathed in air that contained high
31 levels of pollutants, including PM 2.5 and carbon monoxide.

1 There were three periods in February 2014 when pollution
2 levels were described by the report as particularly high,
3 including one day, on 16 February 2014, when the daily
4 average of PM 2.5 in the air was approximately 700 parts
5 per million, some 28 times the advisory standard of 25
6 parts per million.

7 The first Inquiry heard that because of the minute
8 size of PM 2.5, the particles can settle deep within the
9 lungs. They are small enough to be absorbed into the
10 bloodstream through the alveolar capillary membrane. Those
11 members of the community who are particularly at risk from
12 PM 2.5 inhalation include the very young, the elderly,
13 smokers and those with pre-existing respiratory or
14 cardiovascular conditions.

15 The Inquiry concluded, in its first report, that the
16 potential adverse health effects of inhalation of PM 2.5
17 for such people could include exacerbation of their
18 conditions, hospital admissions, stroke, heart attack and,
19 in severe cases, death. The first Inquiry also concluded
20 that the actual adverse health impact of the fire on the
21 Latrobe Valley community were significant and were
22 described as distressing.

23 The board made the following finding, based on the
24 expert health evidence it heard, "The board recognises that
25 the local community suffered extensive short-term adverse
26 health impacts. The board agrees with Professor Campbell
27 that the probable cause of these adverse health impacts was
28 the smoke and ash produced by the Hazelwood Mine fire. The
29 long-term adverse effects of exposure to the smoke and ash
30 from the mine fire are unknown and are of great concern to
31 the community."

1 From the consultations that the inquiry staff have
2 conducted in the past two months, it continues to be the
3 case that the local community are deeply concerned about
4 the long-term health effects of the fire. This hearing
5 will hear evidence that anecdotes in the first half of 2014
6 about there being more deaths than normal in the Latrobe
7 Valley led the local group, Voices of the Valley, to try
8 and find out if there was an actual increase, and if so,
9 whether the mine fire had played a role. The group
10 examined death reports in the local paper and asked the
11 Registry of Births, Deaths and Marriages to provide the
12 data it had about deaths in the Latrobe Valley in the
13 relevant period. The first Inquiry was contacted by Voices
14 of the Valley in late August 2014 about its concern that
15 the February/March fire at Hazelwood may have caused an
16 increase in deaths in the Latrobe Valley compared to
17 previous years. Unfortunately, the first Inquiry board was
18 unable to investigate that issue, as it was not contacted
19 until after the evidence had concluded and when its report
20 was being finalised.

21 In late August 2014, the board's legal adviser wrote
22 to Voices of the Valley, advising them of this, and
23 indicating that the material Voices of the Valley had
24 provided to the Inquiry had been forwarded to the
25 Department of Health and the Coroner's Court. The
26 Department of Health was asked by the Inquiry to include
27 the material that Voices of the Valley had provided in the
28 proposed long-term health study. The coroner was asked to
29 consider whether to make further inquiries into the matter.

30 The first Inquiry reported to the governor on
31 29 August 2014. Soon after that, the issue of whether the

1 fire had in fact caused an increase in deaths in the valley
2 attracted significant media attention, particularly in
3 September 2014. The ABC 7.30 Report ran a story about it
4 on Friday, 12 September 2014. The story referred to the
5 work done by Voices of the Valley and included a brief clip
6 in which the then Deputy Premier of Victoria, Peter Ryan,
7 was asked if he could rule out that people had died because
8 of air pollution caused by the fire. He responded, "There
9 have not been deaths and no indications of such." He
10 added, "By the same token, we are concerned, of course, to
11 undertake the health studies the Inquiry has recommended
12 and we will do that."

13 The evidence before this hearing will show that the
14 Victorian Department of Health provided a statement to that
15 7.30 Report program, in which it said that it had just
16 received the material from Voices of the Valley and was
17 analysing it. The statement also said that the department
18 had received data from the Registrar of Births, Deaths and
19 Marriages concerning deaths in the Latrobe Valley in the
20 years 2009-2014, and the statement went on, "The data shows
21 no increase in deaths in Morwell during the period of the
22 Hazelwood Open-Cut Coal Mine fire compared with the same
23 period in previous years. The official data from the
24 Registry of Births, Deaths and Marriages shows no
25 significant pattern. The reasons for individual deaths can
26 have many explanations, including age, an individual's
27 disease profile and external factors such as heatwave."

28 Over the following five weeks, in September/October
29 2014, the Department of Health published three brief
30 reports on its website about the issue of any link between
31 the mine fire and an increase in deaths in the Latrobe

1 Valley. The reports referred to the data about deaths in
2 the Latrobe Valley and broadly concluded that the data do
3 not support a suggestion that the fire led to an increase
4 in deaths. The last of the three Department of Health
5 reports, in October 2014, referred to an analysis by
6 experts at the University of Melbourne, which the report
7 said had concluded that although there was a small increase
8 in the number of deaths for the first six months of 2014 in
9 the Latrobe Valley, the University of Melbourne could not
10 conclude that this was due to any single cause or whether
11 it had occurred by chance alone. The Melbourne University
12 report found that there were 7.4 additional deaths per
13 month in January/June 2014 compared to earlier years but
14 that those results were statistically inconclusive.

15 As part of preparing the 7.30 Report story in
16 September 2014, the ABC had obtained the services of
17 Associate Professor Adrian Barnett of Queensland University
18 of Technology. Associate Professor Barnett examined the
19 data from the Registry of Births, Deaths and Marriages in
20 four Latrobe Valley postcodes in the years 2009-2014 using
21 recognised statistical analysis techniques and after
22 adjusting for monthly temperatures, he concluded that it
23 was probable that the fire had resulted in 11.2 additional
24 deaths over the months of February and March 2014.

25 This hearing will hear that in 2015, Associate
26 Professor Barnett conducted a further analysis of mortality
27 data over a 10-year period, 2004-2014, and he also looked
28 at two additional postcode areas and in his 2015 report, he
29 concluded that the mine fire was estimated to have
30 increased mortality by 10 per cent during February-March
31 over the six postcodes he examined.

1 The Department of Health asked Dr Flander of the
2 University of Melbourne to conduct a critical appraisal of
3 the work of Associate Professor Barnett and in a report
4 dated 28 April 2015, Dr Flander concluded that the
5 conclusions reached by Associate Professor Barnett were not
6 supported by the results in his two papers.

7 In May of this year, the Victorian Government
8 announced that the Hazelwood Mine Fire Inquiry would be
9 reopened, in part to try and resolve this controversy, and
10 that brings us to what we hope to achieve during these
11 public hearings.

12 As the Chair has noted, paragraph 5 of the Inquiry's
13 new terms of reference, dated 26 May 2015, notes that since
14 the Inquiry's first report on 2 September 2014, further
15 concerns have been raised about the potential health
16 impacts of the fire on Latrobe Valley communities. This is
17 clearly a reference to the sequence of events that I have
18 just been summarising. Paragraph 6 of the terms of
19 reference requires the board to inquire into and report on
20 whether the Hazelwood Coal Mine fire contributed to an
21 increase in deaths having regard to any relevant evidence
22 for the period 2009-2014. And finally, under paragraph 12
23 of the terms of reference, the board is able to inquire
24 into and report on any other matter that is reasonably
25 incidental to paragraph 6.

26 The board's terms of reference necessarily confine
27 its examination to the period 2009-2014. It is not
28 permitted to look, for example, at deaths in 2015. It is
29 also asked to look at whether objectively there has been an
30 increase in deaths and whether the fire contributed to that
31 increase. Answering these questions involves an

1 examination of relevant data to see if there was an
2 increase, and if so, reaching a conclusion about what
3 contribution, if any, the fire played.

4 It is important to appreciate that the Board of
5 Inquiry is not established to examine individual cases of
6 people who think that their loved ones may have died
7 prematurely because of the mine fire. There have been
8 reports of such instances in the media and the Inquiry's
9 staff have met with the affected people privately to listen
10 to their concerns and to explain the Inquiry process to
11 them. It is important to note that the Inquiry does not
12 supplant other legal processes, such as the inquest process
13 in the Coroner's Court. That court is established and
14 equipped to examine individual cases and to determine cause
15 of death.

16 The approach the board has taken to the conduct of
17 this Inquiry has involved the following steps: the board
18 and its staff have consulted with the local community and
19 received submissions from them. The board has obtained all
20 of the reports that have been prepared by Associate
21 Professor Barnett and Dr Louisa Flander. The board has
22 gathered the raw data concerning mortality in the Latrobe
23 Valley over the relevant period from the Registry of
24 Births, Deaths and Marriages and from the Coroner's Court.
25 The board has provided this data, and the reports of
26 Associate Professor Barnett and Dr Flander, to Professor
27 Bruce Armstrong, an eminent epidemiologist and public
28 health physician at the University of Sydney, and the board
29 has obtained a report from Professor Armstrong.

30 In his detailed report, dated August 2015, Professor
31 Armstrong's conclusions include that, one, there is

1 moderate evidence for a higher mortality from all causes
2 and from cardiovascular disease in Latrobe Valley in 2014
3 than in 2009-2013; two, there is weak evidence that the
4 increases in mortality in February to March 2014, the
5 period of the mine fire, were greater than those in the
6 longer period, February to June 2014; three, it is very
7 likely that particular air pollution during the mine fire
8 caused an increase in mortality, realised perhaps more
9 after the period of the fire than during it.

10 Professor Armstrong's report, along with the reports
11 of all of the other experts that have considered these
12 issues, will, of course, be tendered in full in the hearing
13 and will be the subject of questioning tomorrow.

14 The board has also received a further expert report,
15 commissioned by Voices of the Valley, from Professor Ian
16 Gordon of the University of Melbourne. Professor Gordon
17 also examined the mortality data and he concludes that if
18 one examines the period in 2014 beyond the actual fire,
19 that is to May 2014, there is a statistically significant
20 excess of deaths.

21 The four experts who have expressed opinions on the
22 question of whether there is a link between Latrobe Valley
23 mortality figures and the mine fire were brought together
24 earlier this week to see if they could reach agreement on
25 any of the questions before the Inquiry. Before they met
26 on Monday of this week, they were all provided with each
27 other's reports. They spent several hours together in a
28 meeting that was facilitated by a member of the Inquiry's
29 staff. It was a productive process. The experts have
30 prepared a joint report, in which they agree on a number of
31 conclusions, drawing on the conclusions in Professor

1 Armstrong's report. In respect of other conclusions, some
2 of the experts have expressed their reservations,
3 particularly because, in the case of Associate Professor
4 Barnett and Professor Gordon, they had not had the
5 opportunity to look at all of the data. That data has now
6 been provided to them and it is hoped that before they give
7 their evidence tomorrow, they will have had an opportunity
8 to consider it.

9 As has been noted by the Chair, I understand that
10 representatives of a number of the other parties also wish
11 to make opening statements and now may be an appropriate
12 time to hear them.

13 MR NEAL: We do wish to take a brief opportunity to say
14 something on behalf of our role in this Inquiry. Firstly,
15 let me say on behalf of our client that it is grateful for
16 the leave that's been granted by the board to participate
17 in this proceeding. It is clearly an important hearing,
18 bearing, as it does, upon the health of the Latrobe Valley.

19 It will be known to most that Hazelwood has been part
20 of the Latrobe Valley and part of the local community for
21 over 50 years. Between the Hazelwood mine and the Loy Yang
22 B mine, GDF Suez Australian Energy employs about 700 staff
23 and more than 300 contractors and that number increases by
24 some hundreds when major maintenance works are being
25 undertaken. It should go without saying that those
26 employees and contractors are themselves, of course,
27 members of the local community.

28 It will be therefore apparent that our client has a
29 very real and direct interest in the outcome of the matters
30 before the board today and will seek to assist the board in
31 whatever way it can. GDF Suez Australian Energy re-affirms

1 its commitment to the Latrobe Valley and to working with
2 its community as it faces what is seen as a challenging
3 time for the energy industry.

4 Our client is also pleased to inform the board that
5 since the time of the last Inquiry, substantial work has
6 been undertaken in terms of the recommendations and
7 affirmations that emerged from the board's first report.
8 The monitors are due to report to parliament, I'm
9 instructed, on 31 October and the information from our
10 client will be that the overwhelming majority of the
11 recommendations have been implemented. As we are not, as
12 such, leading evidence, those are the only matters we wish
13 to raise at this stage.

14 CHAIRMAN: Yes, thank you, Mr Neal.

15 MR BLANDEN: If the board pleases, we would wish to take the
16 opportunity of briefly addressing the board prior to
17 evidence commencing.

18 It is a matter of concern to us that the joint expert
19 report process was one about which we were not aware until
20 after the event yesterday. The process of a joint report
21 we applaud, we think that is a very good idea in the
22 circumstances, but the process involved in obtaining it
23 seems, with respect, a little unusual, in terms of the
24 normal fashion in which joint reports are produced.

25 The report, and no doubt the members of the board
26 have seen it, is relatively short, three and a half pages
27 or thereabouts. It is difficult to know precisely the
28 views of the authors from reading that report and clearly
29 enough, the points made by Professor Armstrong have been
30 used as, as it were, a template for whatever discussions
31 occurred between those experts. The report as such has

1 various additional notes and added comments and it is not
2 apparent, at least to us, who added those comments to the
3 report and we note that, very unusually for a joint report,
4 there was another person present, Ms Kelly, who was
5 described, at least in the correspondence, as a
6 facilitator. It is not entirely clear what her role was in
7 the discussions either and we're just a little concerned
8 that whilst on the one hand advocating the openness of the
9 process, the way in which this was done was not entirely
10 clear and it is not obvious from a reading of the report,
11 we would suggest, of the joint experts. So can we just
12 voice a concern at this stage about that. It may well be
13 that those issues can be dealt with adequately in due
14 course.

15 We also note that missing from that joint report was
16 another gentleman who may have had something to add to the
17 discussions. We provided counsel assisting last week with
18 a report from Professor John McNeil, professor and head of
19 department of the Department of Epidemiology and
20 Preventative Medicine at Monash. Professor McNeil had
21 taken the opportunity of reviewing all the various reports
22 then in existence, including Professor Armstrong's report.
23 We have provided his assessment of those reports to counsel
24 assisting. As I understand it, that's still a matter for
25 discussion, as to where that goes and whether that evidence
26 is actually presented to the Inquiry or not but, with
27 respect, we would suggest that it would be a valuable
28 addition to the views already obtained.

29 The other matter that we have a little concern about
30 is that Professor Abramson, who, as the board will know,
31 has figured both in the last sets of terms of reference and

1 is on the witness list for this reference as well, we, with
2 respect, would have thought it might have been appropriate
3 to involve him in the joint expert report process. True it
4 is that he hadn't had the opportunity of reviewing the raw
5 data, but it is apparent from Professor Armstrong's report
6 that he didn't have that opportunity either and he's relied
7 on the assessment of that data by others informing his
8 views.

9 We suggest, with respect, that Abramson might well
10 have been useful because, as the board will be aware, he
11 provided what I might call a predictive report
12 contemporaneously with the fire occurring as to the likely
13 effect of the fire and we say for that reason certainly
14 he's had an interest in the matter from the outset and may
15 have been also a useful participant. And I suppose if
16 we're having a whinge, we just say had we known about all
17 this when the original correspondence went out for the
18 joint expert report provision, then perhaps steps could
19 have been taken to involve those gentlemen as well.

20 So we simply take the opportunity at this stage of,
21 with great respect, cautioning the board against, as it
22 were, a wholesome acceptance of the joint report as being
23 the last word on the issue. We would suggest that there
24 are other views as relevant and as important as those
25 expressed by the joint expert report which the board should
26 consider as well. And it seems to us, on the material that
27 so far has been adduced, that the question for the board in
28 terms of this term of reference is really a two-part
29 question. The first part of that, obviously, goes to
30 whether or not there's been an increase in deaths in the
31 relevant time. The second part of the term of reference

1 relates to the causative element, so whether statistically
2 or not there's been an increase in deaths - and could we
3 say by way of comment only at this stage that seems, at
4 best, equivocal on the material - whether any of those
5 deaths are causally related to the fire does not seem to be
6 the subject of any significant evidence in the material
7 that's to be presented before the board and we would
8 perhaps see that as a shortcoming in the process, if
9 there's not to be a real investigation into the cause of
10 the deaths, because it doesn't really advance anybody's
11 knowledge simply to make a comment on a statistical
12 situation that applies without cause to be relevant, thank
13 you.

14 CHAIRMAN: Thank you.

15 MS SZYDZIK: Voices of the Valley are grateful for the board
16 granting leave to the group to appear today to provide
17 evidence before the board and also to have made the
18 submissions.

19 Voices of the Valley have very real concerns as they
20 have expressed throughout this process to help the
21 residents as a result of the Hazelwood fire both following
22 the fire and following it going into the future. That has
23 been confirmed by the expert material that has been put
24 before this board and in particular the joint report and
25 the conclave before the board experts. Most notably in
26 that regard in answer to the question, "Was there an
27 increase in mortality in Latrobe Valley during the coal
28 mine fire in 2014?", it was agreed by all: "There is
29 moderate evidence from all causes and from cardiovascular
30 disease in Latrobe Valley in February to June 2014 than in
31 the same period 2009 to 2013."

1 Voices of the Valley have been disappointed
2 throughout this process by the response of the Government
3 in relation to the concerns they have raised and expressed
4 with the Government at the time of the fire, following the
5 fire and on an ongoing basis. We are comforted that the
6 issue is being dealt with by the board thoroughly,
7 comprehensively and the board will investigate these issues
8 and the evidence in support of them.

9 We are very interested to ensure that the concerns
10 that are raised before this board have taken into account
11 in particular the long-term study that has taken place
12 being undertaken by the Department of Health. The issues
13 that arise here under terms of reference 6, and also later
14 in terms of reference 7 we hope are going to be instructive
15 in relation to that ongoing study and that it will be
16 informed by that and we look forward to how those two
17 interact together. Those are the submissions.

18 CHAIRMAN: Thank you.

19 MR ROSEN: If the court pleases. I wouldn't normally seek to
20 respond to an opening remark but a couple of matters been
21 raised by my learned friend Mr Blanden which do require
22 some response.

23 Firstly in relation to the report of Professor
24 McNeill which was indeed provided to the solicitor to the
25 Inquiry on Friday afternoon. At 3.51 p.m. on Friday, 28
26 August it was provided under cover of a letter that said it
27 was being served on the board and nothing more. No notice
28 had been given in advance of that, that any such report was
29 coming. Having said that I will discuss with Mr Blanden
30 whether or not the report ought to form part of the
31 material before the Inquiry and that's a matter I indicated

1 to him that counsel assisting will consider and get back to
2 him on. As I understand it, it's not sought for Professor
3 McNeil to be called as a witness but rather what's proposed
4 is his report be tendered and that's a matter that
5 consideration will be given to.

6 Secondly, in relation to whether or not Professor
7 Armstrong had the data or relied on others' assessment of
8 it, the evidence will be Professor Armstrong had the data
9 and I would suggest that's clear from the contents of his
10 report that was provided to the Inquiry.

11 With those matters placed on record and an indication
12 there will be an ongoing dialogue with Mr Blanden about the
13 situation of Professor McNeil's report, if we can attend to
14 a couple of brief housekeeping matters before Ms Shann
15 calls the first witness.

16 The first issue concerns the order of witnesses
17 today. Some notice has been given of the order of
18 witnesses but there has been one change which I should
19 alert the parties to. So we will as advertised hear from
20 Mr Ipsen from the Voices of the Valley, Ms Dawn Sims from
21 the Registry of Births, Deaths and Marriages and Ms Linda
22 Cristine for the Department of Health and Human Services.
23 Despite the indication that has been given Dr Danny
24 Csutoros will not be called today. Dr Csutoros was sought
25 by counsel assisting as a witness. The response from
26 counsel for the State of Victoria was that Ms Cristine is
27 more senior within the department and better placed to
28 answer questions particularly about communications between
29 the department and University of Melbourne about various
30 draft reports the university provided. On that basis we
31 are content to call Ms Cristine and to explore those

1 matters with her. In the event she's not able to
2 adequately deal with the entirety of those issues I
3 understand Dr Csutoros is available tomorrow and could be
4 called if the board consider it would benefit from hearing
5 his evidence.

6 In addition, Dr Rosemary Lester will give evidence
7 today. She is of course the former chief officer of the
8 Department of Health and Human Services and the final
9 witness for today, although we might also seek to interpose
10 him because he has to be away today is Professor Abramson
11 of Monash University.

12 The only other housekeeping matter I should attend to
13 now concerns Dr Flander, the witness from the University of
14 Melbourne. Dr Flander was summonsed to attend and give
15 evidence today by the board under the Inquiries Act but we
16 have been advised she is unwell and unable to travel and a
17 medical certificate has been provided to that effect. So I
18 would merely ask that the board excuse her in terms of
19 attendance in response to the summons which is returnable
20 today and I would ask that the parties and the board note
21 that arrangements are being made to see if we can have
22 Dr Flander's evidence by videolink tomorrow and I will
23 inform the parties on the state of that later today.

24 With those matters being attended to I can indicate
25 Ms Shann will call the first witness.

26 MS SHANN: Thank you, I call Ron Ipsen.

27 <RONALD CHARLES IPSEN, sworn and examined:

28 MS SHANN: Thank you, Mr Ipsen. Could you give the board your
29 full name again please?---Ronald Charles Ipsen.

30 And you're a resident from just outside Moe?---I'm a valley boy,
31 yes.

1 Born and bred?---Born and bred yeah, born in the Open Cut.
2 I'm just going to firstly take you back to the day that the fire
3 broke out last year in 2014. You were in the
4 valley?---Yes, yeah.
5 And you were on your property just outside Moe?---Yes, I was,
6 yeah.
7 I understand that now you're a member of the Voices of the
8 Valley and we will come to that but there was no Voices of
9 the Valley back on the day the fire broke out, is that
10 right?---That's right, yes.
11 When did you first yourself start to become concerned about
12 health effects on people in the valley?---Friends through
13 social media began posting that their children were sick
14 and then they posted that they were sick and that their
15 spouses were sick and they all appeared to be sick with the
16 same kind of things.
17 All right. And when was that in terms when the fire broke out
18 that you started to see that on your social media?---That
19 was only a few days later.
20 You have prepared a submission for this Inquiry which is dated
21 10 August 2015?---Yes.
22 And the board will find that behind tab 1 of the materials. You
23 also prepared a submission last year for the first Inquiry,
24 is that right?---Yes, three of them, I think, yes.
25 And that's also contained behind tab 1 as well. After you
26 started to become aware of this information on social media
27 what did you do as a result?---Can you expand on the
28 question?
29 Sure. Did you start to make some enquiries or try and collect
30 some information about health effects of the fire?---Yes, I
31 did. What was coming through social media was a lot of

1 people were reporting different symptoms. When we went
2 into Morwell, I went into Morwell with my partner into
3 Medicare just to do some Government paperwork and the
4 effect in there of the smoke was quite considerable. They
5 became disorientated and all that sort of stuff was
6 happening. Once we got back out again, back out into the
7 Moe area it was okay. Can you say the question again,
8 please?

9 Yes, sure. Did you start to try and reach out to some people in
10 the valley to see whether or not there was information
11 about people who were getting sick or health
12 effects?---Yes.

13 How did you go about doing that?---I put a questionnaire on
14 social media, I built an on-line questionnaire and ran that
15 questionnaire from about the 5th to the 17th.

16 Of February last year?---Of March - February - no, March.

17 All right. And was that the data that you collected from that,
18 that was part of what you submitted to the first Inquiry
19 last year?---Yes, yes.

20 Okay. Around the middle of February was there a rally which was
21 organised by an organisation called Disaster in the
22 Valley?---That was March, the first one was on the 2nd and
23 the Disaster in the Valley people did questionnaires and
24 took names of the people that were there. They asked them
25 health questions.

26 Again, that was directed to whether there were health effects
27 from the fire?---Yes, that's correct, yes.

28 Did you obtain information from them?---Yes, I did, I obtained
29 those and I obtained them from a further rally on the 23rd
30 and correlated those and submitted them to the last
31 Inquiry.

1 Voices of the Valley, can you explain to the board what that
2 organisation is?---Well, we're an incorporated body, sort
3 of like born out of the mine fire. It started off with the
4 Disaster in the Valley people, at the last Inquiry I think
5 Simon gave you a pretty broad basis on how that formed,
6 it's been ongoing ever since. They are just a group of
7 local residents that are concerned and just following up
8 what needs to be done really.

9 So it started off as a Disaster in the Valley that merged into
10 Voices of the Valley?---Yes.

11 Which is still going today?---Yes, that's correct.

12 And you became a member of Voices of the Valley during the
13 fire?---Yes.

14 When was the first time that you yourself and other members of
15 Voices of the Valley started to discuss this issue of
16 whether or not the fire was leading or had led to an
17 increase in deaths?---That would have been in about mid
18 May, in a meeting in mid May.

19 2014?---In 2014, yes. We asked Births, Deaths and Marriages, we
20 sent somebody to approach them through emails and somebody
21 was allocated that job.

22 Just taking you back, what was it that led you and other members
23 to start talking about that issue?---We had put together
24 the three health surveys and other data that we had and
25 presented it to the Department of Health when they came up
26 to do the - to tell us about the long-term health study, to
27 do the public consultations then.

28 Are you able to say when that was approximately?---I think that
29 was 6 May.

30 Okay. And at that stage was there information that you and
31 other members were receiving about any community concerns

1 around the issue of deaths?---Not so much about deaths,
2 there were people that spoke about it, there was little
3 bits and pieces popping up, people were questioning whether
4 their relatives that had died was because of that.

5 Would it be fair to say anecdotal evidence?---Anecdotal is a
6 good word, yes.

7 So there were some general suggestions you were hearing about on
8 the grapevine?---Yes.

9 You mentioned Births, Deaths and Marriages?---Yes.

10 Was that the first step that was taken in terms of trying to
11 obtain some information about whether or not there were
12 deaths?---Yes, the committee decided that's what they would
13 do, we would ask Births, Deaths and Marriages.

14 What was it you asked Births, Deaths and Marriages for?---We
15 asked them for five years, four postcodes, just numbers of
16 deaths.

17 And when you say five years, can you explain what it was that
18 you were specifically asking for?---We wanted deaths per
19 month by the postcodes, by the four postcodes that were
20 immediately surrounding the mine fire.

21 And I will just ask if something could be put up on the screen.
22 This is part of the material you collated towards the end
23 of 2014?---Yes, made that graphic, yes.

24 For the board's assistance it's SUBM.0001.002.0070 in the
25 materials behind tab 1.

26 CHAIRMAN: Can I ask you when giving the numbers to take it a
27 little more slowly because other people will be trying to
28 trace the particular page, so if you enunciate a little
29 more clearly, thank you.

30 MS SHANN: I will say that again. Behind tab 1,
31 SUBM.0001.002.0070. Can you explain what it is we're

1 seeing on the screen there Mr Ipsen?---They are the full
2 postcodes we asked for the initial data for.
3 And that's Morwell, Traralgon, Moe and Churchill?---That is
4 correct, yes.
5 Why were those four selected?---They have large population bases
6 within 10 to 15 kilometres of the mine fire.
7 Can we actually see on that picture a little fire just next to
8 the 3840?---Yes, that's correct, that's to indicate where
9 the mine fire was on the map.
10 You mentioned you asked Births, Deaths and Marriages for data
11 from the years 2009 to 2014?---Yes.
12 Why were those years selected?---We just wanted a reasonable
13 spread so we just thought five years is good enough, we had
14 a bit of a bash at that, yeah.
15 Okay, and you mentioned May as the timeframe for making this
16 Inquiry?---Yes.
17 27 May 2014, does that sound right?---Yes, that's about right,
18 yes.
19 So that's the first request to Births, Deaths and Marriages from
20 the Voices of the Valley?---I believe so, yes.
21 What was the response from Births, Deaths and Marriages?---We
22 didn't hear anything.
23 Did you end up receiving this data on 2 September 2014?---4
24 September, it was extracted on the 2nd and we received it
25 on the 4th.
26 In the meantime the first Board of Inquiry is taking
27 place?---Yes, that's correct.
28 And did you try to obtain or think about a different way in
29 which you could work out the answer whether or not there
30 were deaths, an increase in deaths?---Yes, we did, question
31 plagued us, it was sort of like a big question hanging over

1 what we were doing. So some of our members volunteered to
2 go through the local newspaper, the local newspaper is the
3 Latrobe Valley Express roughly covers that area and a
4 little bit more here and there. So we figured that if we
5 looked for unique deaths that just happened once within
6 that period we would get an indicating result.

7 So can you say what was it you were actually comparing, was it
8 the same spread of years?---We compared the mean or the
9 average of the previous five years to what happened in
10 2014.

11 What was it you were actually obtaining from the
12 newspaper?---Just deaths, just numbers.

13 So you were looking at the death notices in the paper?---Yes, we
14 searched the death notices locally at the newspaper's
15 office and we went through the library in - the big
16 library, the State library and searched the archives and
17 ended up doing all five years there.

18 In terms of the results that you obtained, how long did it take
19 you to put all of that information together?---Until 14/8,
20 or would have been 10/8, 10 August by the time we had all
21 that information collated, we had several people working in
22 different areas so when all that stuff came back we put it
23 together.

24 I will just ask another page from some work you have done be put
25 up with a particular graph, and this can be found behind
26 tab 1 at SUBM.0001.002.071. I should tender the first
27 diagram which was put up.

28 CHAIRMAN: What's the most convenient way in terms of exhibits?

29 MS SHANN: Your Honour, there are four graphs or diagrams which
30 I will show the witness. If they could perhaps be tendered
31 separately but they are all then found within the

1 submissions.

2 #EXHIBIT 1A - SUBM.0001.002.0070.

3 #EXHIBIT 1B - SUBM.0001.002.0071.

4 MS SHANN: Do you recognise this graph?---Yes, I do, yes.

5 Can you explain to the board what that represents?---That was

6 our first analysis of the statistics we obtained from the

7 newspapers.

8 And what did it show to you?---We were quite alarmed at the

9 increase of 2004/14 above the average and the fact that it

10 was above 2009 where we had people (indistinct)

11 So if we just look at the graph, we have got over on the

12 left-hand side the number of deaths, and looking the bottom

13 the months running from January to June?---Yes, that's

14 correct.

15 And could you just take the board through the three different

16 coloured lines which are on that graph and what those

17 mean?---Okay. 2014 is the orange graph, that's the ones

18 that died that year and they are just raw figures, just the

19 numbers of people that died that we counted in the

20 newspaper. 2009, I subtracted them from the - extracted

21 that as a figure for what happened that year because it was

22 a high (indistinct) and we wanted to show how 2014 compared

23 to that. We did a mean of all the years and that's the

24 grain across there, they are only very rough statistics but

25 it was indicative and alarming, and that particular graph I

26 suppose is the one that really sparked it within us. We

27 produced the graph on the Tuesday, we had a meeting on the

28 Wednesday.

29 This is mid August 2014?---Yes. We had a meeting on the

30 Wednesday, we decided unanimously to ask the board what to

31 do and the last Inquiry we had, to be honest nobody else we

1 trusted so we asked the board at that time what do we do.
2 Were you present when Mr Rozen gave some opening remarks at the
3 start of this morning?---Yes, I was yeah, they were pretty
4 good actually, by the way.
5 Thank you, he's growing in his seat. So there was a description
6 of receiving some information from Voices of the Valley at
7 the point in time that the report for the first Inquiry was
8 being written in August?---Yes.
9 This information about the death notices, is that what was
10 provided to the board at that time?---Yes, absolutely,
11 there is a letter we wrote, yes.
12 At this stage you still hadn't received any of the data from
13 Births, Deaths and Marriages?---No, we were aware though -
14 the Inquiry did make us aware that they wouldn't be able to
15 include it and reassured us they would send it - forward it
16 on.
17 Shortly after the board published or finalised its report,
18 within a few days you received the Births, Deaths and
19 Marriages data you requested?---Exactly, yes, exactly - not
20 within a few days, yes, that day.
21 And if I can ask for another chart to be brought up and this is
22 found at SUBM.0001.002.0072, do you recognise - -
23 -?---Totally sick of looking at it.
24 Can you tell the board what that is?---That's the information we
25 received from Births, Deaths and Marriages extracted on 2
26 September that we requested.
27 Okay, and it's pretty small font but if we can just work through
28 it and zoom into any part as needed. So we have along the
29 left-hand side the years?---Yes.
30 And that goes from 2009 to 2014?---Yes, that is correct.
31 And we have the months January to June?---That's right, it was

1 only six months is what we asked for the first time.
2 And we have it broken into postcodes going along the top of the
3 chart?---That's correct, yes.
4 And then numbers as against each month?---Yes, that's right, the
5 numbers that - they are the Births, Deaths and Marriages
6 data on people that died within that postcode by the usual
7 place of residence?---Yes.

8 I tender that, Your Honour.

9 #EXHIBIT 1C - 0001.002.0072.

10 This is after the first Board of Inquiry has finished; what did
11 you do with this data having received it?---Well, we
12 analysed it and stewed it and worried about it.
13 What did it tell you?---Well, it told us what we had found with
14 the newspapers was not only right but the figures were
15 worse. We did send them to - I think we read a community
16 health report or a community report from the Government and
17 took it up to Parliament to present and say we're having
18 trouble here. We also ended up working with the media on
19 it.

20 Was that the 7.30 report with the ABC?---Yes, that's correct,
21 yes.

22 And it was a 7.30 report which dealt with this issue of whether
23 or not there was an increase in deaths on 12 September
24 2014?---Yes.

25 That was a program you had some involvement with?---Yes.

26 And had you provided this data to that program?---Yes, we did,
27 yes.

28 We heard from Mr Rozen this morning that as part of that program
29 they have made contact with a Professor Barnett in
30 Queensland?---Yes, that's correct, they wanted some
31 credible statistics rather than, you know, just from me.

1 You're not a statistician yourself?---No, I'm not a
2 statistician, no, I'm just a hack.

3 You're not here giving expert evidence about statistical
4 analysis?---No.

5 No, shortly after the 7.30 program did you make another request
6 to Births, Deaths and Marriages for some additional
7 data?---Yes, we did. As the year went on with our six
8 monthly stuff we noticed it was still increasing and there
9 wasn't any sign of it knocking back, so we asked if we
10 could have the 12 months instead of six and the 2014 year
11 to date because it was only November, I think, mid-November
12 when we contacted them and asked them for the new stuff.
13 We asked them for a more substantive set in that we asked
14 for six postcodes instead of the four.

15 So taking that bit by bit, the first thing you asked for was all
16 of the months of the year?---Yes.

17 As opposed to just January to June?---Yes, that is correct, yes.

18 And the second thing you were asking for is essentially can we
19 have up until now, and now was November?---Yes.

20 Okay?---That is correct.

21 And two additional postcodes?---Two additional postcodes.

22 And that was Yinnar and Boolara South?---Yes, that's correct.

23 Was there any additional data you asked for?---Yes, we asked for
24 the whole state figures for the same period for each month
25 for each year, yes.

26 What was the reason behind that?---If there were any particular
27 trends within the whole of the state we wanted to compare
28 them just as a baseline, to have some kind of baseline that
29 wasn't Latrobe Valley.

30 Did you also extend out the number of years that you wanted some
31 data for?---Yes, we centred it to ten years.

1 Going back to 2004?---Yes, because in the five year period we
2 had four of the hottest years on record so it was a bit
3 kind of skewed.

4 When did you receive that data?---I didn't write that down,
5 actually.

6 Was it around the start of 2015?---Yes, December-ish, yes.

7 Did you then get some additional data to complete the 2014 year
8 after that?---Yes, we did, after that we asked for can we
9 have the last little bits and pieces and we got that and
10 that was cool.

11 Voices of the Valley paid for that?---We had \$600 mate, we are
12 not a very rich organisation, that we had gained from just
13 people - we had a little bucket there and had people but a
14 dollar or two in and we had our membership fees, you know,
15 a \$1, and we collected \$600 and spent \$550 of that buying
16 these statistics.

17 And that was to give to Births, Deaths and Marriages?---Yes.

18 For them to print the data out for you?---They do the search and
19 that's what costs the money.

20 When you received that second lot of data did you provide that
21 to Professor Barnett?---I believe so, yes.

22 Essentially is that the end of your involvement in terms of
23 obtaining data and providing it and analysing it?---I had
24 to write it up for this one, a ten year one for this lot.
25 I think, Your Honour, I would prefer that we looked at the
26 ten years instead of the five years, I know you might be
27 restricted but as much as you can get helps.

28 And in terms of Voices of the Valley and you, is it still your
29 feeling that there is concern in the community about
30 whether or not there is an increase in deaths?---Yes, there
31 is, yeah, I think it's ongoing.

1 Thank you.

2 CHAIRMAN: I thought you were going to give me four but you
3 have only given me three.

4 MS SHANN: I have, what has gone missing?

5 CHAIRMAN: I'm not pressing you, I'm just enquiring.

6 MS SHANN: Please remain there for a moment.

7 <CROSS-EXAMINED BY MS SZYDZIK:

8 MS SZYDZIK: Mr Ipsen, if I could take you through a couple of
9 aspects of the evidence you have given so far and clarify a
10 few matters. You gave evidence right at the beginning
11 about where you were when the fire in the mine broke
12 out?---Yes.

13 And I just wanted to clarify whether you were at home or whether
14 you were somewhere - your home is in the outskirts of Moe
15 somewhere, is that right?---Yes.

16 And were you at your home when the fire in the mine broke
17 out?---When it actually - when the bushfire hit the mine,
18 is that the point you're talking about at the time?

19 Yes, or when it took hold?---When the bush fire broke out I was
20 at home which is sort of like - officially it's Tanjil
21 South because nobody really admits from coming from Moe,
22 but when the bushfire broke out I was there, when it hit
23 the mine I was up at Hernes Oak, my uncle who lives up
24 there, and this property was threatened up there so my
25 uncle and - well, all hands on deck basically. We went up
26 there, the family went up there and we were looking after
27 him in that place and that sort of stuff, so that's where I
28 was when it hit the mine itself.

29 Are you able to say about how many days you had been at Hernes
30 Oak dealing with the bushfire?---It was only the two, only
31 - the bushfire start on the 9th, I think, and then it

1 cracked into the mine the next day.
2 And are you able to say anything about the quality of the fire,
3 the smoke from the bushfire as compared with the smoke from
4 the mine fire?---They are quite different, the burning coal
5 is quite acrid, leaves a taste in your mouth. The bush
6 fire smoke which everybody knows almost has a smell of
7 eucalypt about it, but the mine fire smells like
8 briquettes.

9 You gave some evidence about going into Morwell and experiencing
10 the smoke there, and you said it was better in Moe?---M'mm.
11 Can you say whether you experienced any smoke effect in Moe from
12 the mine fire?---They weren't as noticeable as they were in
13 Morwell, the disorientation and the headaches and EGI and
14 that sort of stuff was very noticeable, that was almost
15 immediate whereas in the Moe area it wasn't quite as
16 pervasive or as strong.

17 You were referred to the submission you filed on behalf of
18 Voices of the Valley for this particular term of
19 reference?---Yes.

20 Have you got a copy of that there with you?---Probably.

21 It's behind tab 1 in the folder I'm told. Just to make sure
22 we're dealing with the same document, have you got a
23 document there where the heading is, "Submission to
24 Hazelwood Mine Fire Inquiry, re terms of reference
25 6"?---Yes, I have, submission 0001.001.0002.

26 In a number of the documents that Voices of the Valley have
27 provided to the Board of Inquiry there has been a comment
28 about people leaving Morwell or being evacuated from
29 Morwell. Are you able to provide any insight into how many
30 people left Morwell or didn't leave Morwell?---Not really,
31 there was a figure bandied around of about 60 per cent but

1 I'm not sure that is an actual figure, my guess is it's
2 probably may be ten, 15 or something.

3 No further questions, thank you.

4 PROFESSOR CATFORD: Mr Ipsen, thank you very much for your
5 evidence and your enterprising actions on behalf of the
6 community, you clearly were quite concerned about these
7 increase in deaths?---Yes.

8 Can I ask you when you forwarded on your first piece of
9 information and subsequently as you were gathering for the
10 Commission did the Department of Health contact you?---No.
11 Did you have any contact communication with the Department of
12 Health at all?---No.

13 When the fact sheets appeared on the website from the Department
14 of Health concerning the deaths were you sent those so you
15 knew they were available, for example?---No, I learned
16 about them on social media though, it was a bit of a joke
17 some of them.

18 What was your attitude towards those fact sheets?---There was
19 one particular fact sheet which said that there was a
20 decrease in deaths and they highlighted the Morwell
21 postcode. We responded to that because of the very
22 selective use of stats and I responded saying that I
23 believed that it was because there had been such a - I
24 believe there was a harvesting effect from the heatwave in
25 January, and subsequently they rose again as they did and
26 continued to increase as we got more months, it just got
27 worse but only through social media really.

28 And did those fact sheets in any way reassure you of the
29 situation, were they useful at all?---To be honest we had -
30 we lost faith in the Department of Health very early in the
31 piece and it became a running joke about the Department of

1 Health, DOH was a very - the running joke was the Homer
2 Simpson thing, have you seen Homer Simpson? And he goes
3 'doh', that was the Department of Health right, DOH, so
4 that's anything from the Department of Health was just -
5 I'm sorry that was just how we felt.

6 Thank you. It was quite enterprising to engage an
7 epidemiologist for a statistician, how did you choose
8 Associate Professor Adrian Barnett?---One of the
9 community's organisers already knew of his work I think,
10 but we didn't sit down as a community group and choose him,
11 that was something that was done very quickly by the ABC.

12 So had you considered any other people that might be able to
13 help you at all?---We weren't really looking that far into
14 what we would need that we would need that kind of -
15 credibility.

16 Did you think of anyone more local in Victoria to help you with
17 this?---I - during the time we did make contact with
18 several people and we tried to email various professors,
19 various universities basically asking for help. What we
20 felt was happening was that they were unable to help
21 because of the tender for the long-term health study that
22 they would view it as, that's just what we felt, they
23 didn't get back to us so that's what we thought.

24 Thank you very much.

25 MRS ROPER: Just one question, thank you very much for your
26 evidence. You mentioned that you extended from four
27 postcodes to six?---Yes.

28 Why was that?---When I looked at the geography, the smoke was
29 moving around and when I looked at the various areas, it
30 was that community there, where the wind direction was and
31 (indistinct) in a bit of a valley there and smoke there.

1 We formed the opinion that that smoke and the toxins from
2 within the smoke would settle at night so that would affect
3 areas in (indistinct). So we looked at postcodes that were
4 within the range and were susceptible.

5 Okay. Thank you?---In the end we discarded them as the numbers
6 were too small.

7 MS SHANN: Thank you. I call Dawn Sims.

8 <DAWN ALVINE SIMS, sworn and examined:

9 MS SHANN: Ms Sims, if you could give the board your full name
10 again?---Dawn Alvine Sims.

11 Your professional address is 595 Collins Street,
12 Melbourne?---That's correct.

13 You are an enterprise data and intelligence consultant?---That's
14 correct.

15 At Victorian Registry of Births, Deaths and Marriages?---Yes.

16 You've made a statement in preparation for today's hearings; is
17 that right?---Yes.

18 If you just turn to tab 3 of that folder. It is already
19 open?---It is already there.

20 The fantastic work of the instructors here. I think the first
21 page of that is coming up on the screen as well. That is
22 located behind tab 3 and the number on it is 002.001.0001.

23 Is that the statement that you made for this Inquiry?---It
24 is, yes.

25 And is that an accurate and correct document?---It is, yes.

26 And the contents of it are truthful?---They are truthful.

27 I tender that.

28 #EXHIBIT 2 - Statement of Ms Sims.

29 Feel free to refer to your statement if you need to. I'll take
30 you to a number of dates and if you need to check that,
31 that is absolutely fine. What I'd like to do just to start

1 with is ask you some questions to explain the role of the
2 Victorian Registry of Births, Deaths and Marriages, or
3 Births, Deaths and Marriages, and to explain what their
4 data is which is collected there. In relation specifically
5 to collecting death data or data about the number of deaths
6 in Victoria, can you explain what the role of the registry
7 is?---The registry registers all deaths that take place in
8 Victoria. The deaths are registered on the basis of two
9 pieces of information, one being a death registration
10 statement lodged by a funeral director and the second being
11 a medical certificate cause of death, or MCCD, which is
12 supplied to us by the medical practitioner who is
13 determining the cause of death for the individual.

14 When a person dies, there's two pieces of formal paperwork which
15 need to be completed; is that right?---That's correct.

16 And both of those then go to the registry?---Yes.

17 And data is then drawn from those?---Data is drawn from those
18 and facts are crossed checked, like make sure they have
19 both got the same date of birth, the same name for the
20 individual and that sort of thing and provided everything
21 is correct and there's no reason to delay the registration,
22 the registration takes place. There is also potential for
23 deaths to be referred on to the coroner and that will delay
24 the registration.

25 We'll just break that down a little bit. The first source of
26 information that you referred to is a document the death
27 registration statement?---That's correct.

28 Completed by a funeral director?---Yes.

29 What type of information is that recording?---The name, the
30 personal details of the individual, their residential
31 address, it will have things like next of kin, who's

1 informed the death, that sort of thing.
2 Who is giving that information to the funeral director?---It is
3 usually family members of the deceased.
4 So in terms of, if we take residential address, when you receive
5 that information, and by "you" I'm really
6 meaning - - -?---BDM.
7 Yes, BDM, Births, Deaths and Marriages, do you have a way of
8 knowing how accurate or what criteria it was that the next
9 of kin used to decide what the address was that they'd
10 give?---No, we just take it on face value that if that is
11 what has been provided, that is the residential address of
12 the deceased - was the residential address.
13 So you don't know whether it is the next of kin indicating that
14 that is where the person lived for the last two weeks
15 before their death or whether it is for the last 20 years
16 before their death?---Potentially it could be the last two
17 weeks if they, for instance, went into aged care, yes.
18 So you've got that information from the funeral director in
19 terms of the death registration statement and you also
20 mentioned receiving information from a medical
21 practitioner?---That's right.
22 And that's the medical certificate of cause of death?---M'mm.
23 Is that always completed by a medical practitioner?---Yes.
24 It is. And do you always receive that information on cause of
25 death?---Yes, we have to before we can complete a death
26 registration.
27 Are there occasions where you receive the medical certificate of
28 cause of death but actually the medical practitioner
29 indicates they are undecided or they are not sure and
30 they've referred it on to the coroner?---Yes. A lot of
31 deaths are referred on to the coroner by the medical

1 practitioner. Some are referred by the registry.
2 And that is you, Births, Deaths and Marriages?---Yes.
3 So there is two ways in which cause of death can be referred to
4 be considered by the coroner?---Yes.
5 When there is some uncertainty about cause of death and the
6 coroner is considering that, what does that mean in terms
7 of your ability to enter that data about that death into
8 your system?---We can't complete the registration. If it
9 is pending because it has gone to the corner, we can issue
10 an interim death certificate to the family so that things
11 can sort of get rolling in terms of disposing of the body
12 and that sort of thing, but the registration won't be
13 completed until we have the cause of death from the
14 coroner.
15 How long does that take?---Sometimes it is a matter of days,
16 sometimes it is a lot longer.
17 By "a lot longer"?---I've known them be years being with the
18 coroner. That would be an aberration, though. Normally it
19 is a reasonably quick turnaround.
20 All right. You've mentioned that until you receive the final
21 position on cause of death, it is not a completed
22 registration?---That's right.
23 In terms of your data storage, do you have a database which
24 stores completed registrations?---We have the one database
25 that stores death registrations. Whether the registration
26 is complete or pending for some reason, it is still sitting
27 in that same database, just the status will indicate that
28 it is not a complete registration as yet.
29 So a death could have a status as "pending"?---It will be
30 "pending" something, "pending coroner", "pending
31 investigation".

1 Or it could be "complete"?---Yes.

2 They are the two status options?---No, there is about 12
3 different statuses, but the majority will be "pending
4 coroner", "pending investigation" or "complete".

5 In terms of the information that you would receive from the
6 medical practitioner, would one of the categories of
7 information be where the death occurred?---Yes. That is
8 another mandatory field that - or mandatory information we
9 have to have, where the death occurred.

10 In terms of the postcode field?---That is not a mandatory field.
11 We need a place of death but postcode specifically isn't a
12 mandatory field.

13 So what do you mean when you refer to place of death?---We need
14 at least the suburb or something because we have to have a
15 place of death, even if the postcode isn't provided.

16 In terms of then this issue of there being completed
17 registrations and pending registrations, there's an example
18 which is set out at paragraph 7 of your statement. Could
19 you just read that out, please, just as an example to
20 explain the situation?---"The total number of deaths
21 recorded with a 'complete' status for a specified period
22 can alter over time depending on when the data is extracted
23 from RBDM's system."

24 Just stopping you there for a moment, what does "extracted"
25 mean? Is that just the downloading date?---Yes, we put in
26 the information we're searching for, the parameters that
27 we're searching for. For instance, in the example given,
28 we'd look for completed deaths for 02/2014 and if we're
29 looking for a specific postcode, we'd put that postcode in,
30 the usual residence and then the system would spit out a
31 number for us.

1 And the spitting out of the number is the extraction?---Yes.

2 All right. Thank you. If you could just detail that

3 example?---"For example, if data of the number of deaths
4 with a 'complete' status in February 2014 was extracted in
5 September 2014, there may have been a number of pending
6 deaths which would not be recorded in that data. Some of
7 these pending matters may have become completed by, for
8 example, July 2015, so an extraction at that time might
9 have a slightly higher number of deaths recorded."

10 Just breaking that down, the date of extraction can alter the
11 number which comes out if what you're asking for is how
12 many completed deaths are there?---Yes.

13 And the later in time that the data is extracted, there could be
14 an increase from it being extracted a year earlier, for
15 example?---Yes.

16 And that's because the coroner, for example, may have finalised
17 cause of death and therefore you would have transferred it
18 from a "pending" status to a "completed" status?---That's
19 correct.

20 I'm now just going to ask you about some requests and contact
21 you've had with various organisations or entities about
22 data in relation to the Latrobe Valley and number of deaths
23 in 2014 and other relevant years?---Okay.

24 Is the first request that you received on 27 May 2014?---Yes,
25 that was the first request from Tara Dean from Voices of
26 the Valley.

27 That was a request for data showing the number of deaths for the
28 months February/June 2014 for four postcodes?---Four
29 postcodes.

30 And a request also for some other years?---The same months but
31 for the five preceding years, for comparative purposes.

1 We've heard from Mr Ipsen this morning about that request. When
2 Births, Deaths and Marriages receives a request, there's an
3 ability to release that information to members of the
4 public?---Any data request we get is assessed. We've got
5 various pieces of legislation that we must work within and
6 in terms of data release, it is primarily the Privacy and
7 Data Protection Act, formerly the Information Privacy Act,
8 and the Health Records Act. So we have to make sure we're
9 abiding by those pieces of legislation when we determine if
10 and what information we're going to be giving out.

11 Okay. Is the next contact that Births, Deaths and Marriages had
12 from Voices of the Valley another request on 4 August 2014
13 from a Mr Gunter?---Yes. It was the same request but from
14 Mr Gunter.

15 Okay. Did he also request some comparison data?---Yes, he
16 requested in addition data for the same months for the
17 whole of Victoria.

18 17 August 2014 you contacted the Department of Health and Human
19 Services?---The registrar did, yes.

20 Whenever I say "you", I am meaning the registry in its
21 entirety?---Yes.

22 What was the purpose of that contact?---That is actually
23 paragraph 10 in the document, and that paragraph was
24 actually scripted by the registrar because it was her
25 communication, and it was essentially contacting them to
26 see whether it would be more appropriate that Mr Gunter get
27 the information from the public health record.

28 Did Births, Deaths and Marriages receive a response from the
29 department?---The registrar has reported that the
30 Department of Health declined that option.

31 On 25 August 2014 did Mr Gunter, who is, again, from Voices of

1 the Valley, write to Births, Deaths and Marriages
2 again?---Yes, he did.

3 And what was the subject of that?---It was essentially - like a
4 reiteration of the request. I think that was when he
5 mentioned the Victorian data.

6 If I just take you to paragraph 11. Was he asking for some
7 additional data to essentially complete the year?---Yes, to
8 complete the year.

9 So July to December?---Yes, rather than just January to June.

10 On 3 September 2014, did the registrar provide to Rosemary
11 Lester, and also Mr Neil Robertson from emergency services,
12 extracted data, which really was the response to the
13 request from Voices of the Valley?---Yes.

14 We've talked about these status differences of "pending" and
15 "completed". Is this really an extraction of completed
16 data?---Completed data only, yes.

17 Again, I might actually just ask if Exhibit 1C could be put up
18 on the screen. Ms Sims, this is quite small?---It looks
19 like my spreadsheet, though.

20 So let me know if there is a difficulty looking at it. That
21 looks like the data that we're talking about?---Yes.

22 This has the years, the months, January to June, and some
23 numbers against postcodes?---Yes.

24 Again, this is just the completed data?---Completed data, yes.

25 So these figures wouldn't pick up if there was still, as of the
26 date that this was extracted, if there was still some
27 enquiry outstanding, such as cause of death?---That is
28 correct, those deaths would not be included in those
29 numbers.

30 But this is the information that, on 3 September 2014, you
31 provided to Rosemary Lester and Neil Robertson?---That's

1 correct.

2 On 4 September 2014 was this provided to Mr Gunter?---It was,
3 yes.

4 Taking you a little further on, on 2 October 2014 was there a
5 further request from Voices of the Valley for additional
6 postcodes and additional years?---Yes, there was.

7 At that time, did Ms Dean also ask for details of the cause of
8 death from each person?---She did, yes.

9 What was the response from Births, Deaths and Marriages?---We
10 agreed to the additional information provision, with the
11 exception of providing cause of death, and that was due to
12 the sensitivity of it and the possibility of - we have to
13 be conscious of individuals being able to be identified.

14 So even if someone's name and birth date isn't part of that
15 information, there's a concern that the description of the
16 cause of death may actually reveal the identity to someone
17 who was familiar with the family, for example?---Correct,
18 yes.

19 On 9 October 2014 did Births, Deaths and Marriages inform
20 Ms Dean that that additional data, the additional years and
21 the additional postcodes, would be provided but, for
22 privacy reasons, not the cause of death?---That's correct.

23 On 8 September 2014, did the Department of Health and Human
24 Services make a request to Births, Deaths and Marriages for
25 data?---They did.

26 What did they ask for?---They requested deaths for the same four
27 postcodes for each month between 2009 and 2014, with cause
28 of death, as well as comparative data from the whole of
29 Victoria.

30 On 12 December 2014 was Ms Dean, from Voices of the Valley,
31 provided with that additional data that she had asked

1 for?---She was, yes.

2 Again, that data was just completed death data?---Only completed

3 death data.

4 And taking the chronology then into 2015, on 15 January did

5 Births, Deaths and Marriages then provide the Department of

6 Health and Human Services with the data that they'd

7 requested?---Yes, we did.

8 So that included now, for the first time, information about

9 cause of death?---That's correct.

10 Why was the distinction drawn between what was given to Voices

11 of the Valley in that regard and the department?---When we

12 do any assessment of what we release and to whom - it came

13 down, I guess, to Department of Health as opposed to a

14 citizen, even though that citizen was representing a

15 community group.

16 So in terms of the privacy and sensitivity concerns, you didn't

17 hold those in relation to the department?---Well, they are

18 beholden by the same privacy legislation that we are, so we

19 were assured that the data would be treated accordingly.

20 Again, though, in terms of the data provided to the department,

21 it was just the completed death data?---Again, it was just

22 complete, yes.

23 And following and set out in your statement, was there some

24 updates in terms of data provided to Voices of the Valley

25 over the subsequent months?---There was. The December 2014

26 data was incomplete because of when the data was extracted

27 from our system, so we provided full data for December 2014

28 and then do you want me to move through to July this year?

29 And in July this year there was some further - - -?---It was

30 discovered that there was a discrepancy with the November

31 data, so we re-provided November as well and some of the

1 numbers went up.

2 In February 2015, on the 11th, did the department make a further

3 request to Births, Deaths and Marriages, essentially

4 extending the years?---They did.

5 So asking for 2004 onwards?---2004-2008, just to complete the

6 data set, so that they had the same as Voices of the Valley

7 had.

8 On 12 March 2015 was there permission given to the department

9 for them to be able to provide that data to the University

10 of Melbourne?---There was, yes.

11 Again, on 8 July 2015 was permission given by Births, Deaths and

12 Marriages for the department to provide that data to

13 Dr Rosemary Lester?---Yes, that's correct.

14 Again, with all of this data, we're just talking about completed

15 death data?---That's right.

16 Coming then to the Board of Inquiry and the interactions between

17 Births, Deaths and Marriages and the board, on 17 June this

18 year, did Births, Deaths and Marriages receive a request

19 from the Inquiry?---Yes, we did.

20 What was that request?---That was a request for number and cause

21 of death by month from 2004 until the most recent month

22 available at 17 June 2015, and there was eight postcodes

23 listed.

24 Was there also a request for the cause of death?---Yes, cause of

25 death was included.

26 And comparison data for the state of Victoria?---We had

27 conversations with the Board of Inquiry to see if they

28 wanted comparative data as well. So, yes, we provided the

29 whole Victorian data as well.

30 You detailed a little earlier this process of extraction. The

31 extraction date of the data that was provided to the board,

1 10 July 2015?---That's correct.

2 And that was then provided by way of email?---Yes.

3 So in terms of that data - and just for the board's assistance,

4 it won't be brought up on the screen because it does have

5 that cause of death identifying data, but it is before the

6 board and has also been provided to all experts who are to

7 give evidence tomorrow - if I can just ask you a few

8 questions about that data. Firstly again, it is the

9 completed death data?---That's correct.

10 So it's really 10 July, which is the date of extraction. If

11 there were any pending deaths that had that status attached

12 to them, they wouldn't come up in the data which was

13 provided to the board?---That's correct, it would only be

14 complete registrations.

15 If I can ask for the attachment to Ms Sims' statement to be put

16 up on the screen, and this appears at WIT.0002.001.0006 of

17 the materials. Ms Sims, again please indicate if we need

18 to zoom in in some way?---I've got it in the book.

19 You've got it in front of you?---Yes.

20 Perhaps if we could just zoom in a little bit so we can see

21 those headings. This is, in essence, a redacted version or

22 a blacked-out version of the individual registrations on

23 what one page of what was provided to the board looks

24 like?---Yes.

25 If I can just take you through what the headings represent.

26 Firstly, Registration Date, what does that tell us?---That

27 is the date that the death was first registered or the date

28 that any amendments that were made to make it a more

29 accurate record were completed.

30 For the majority of cases, would that indicate the date that you

31 had all of the completed information?---Yes, but

1 potentially there can be - it will be completed, a
2 certificate will be released and the family might come back
3 and say the person had a middle name or there's a child
4 missing that is not listed on the death certificate. That
5 correction of that information would then alter the
6 registration date.

7 We've then got Date of Birth - pretty self-explanatory - and
8 Date of Death and Sex. Postcode of Usual Place of
9 Residence, that is the information that would have been
10 drawn from that document from the funeral director that you
11 gave evidence about earlier?---That's correct.

12 Again, you can't say how accurate that might have been or what
13 the criteria were that the next of kin used to provide that
14 information?---No. We assume it is correct.

15 And Postcode of Place of Death, you gave some evidence earlier
16 about obtaining that from the medical practitioner but it
17 not being a mandatory field?---That's right.

18 Is it in fact the case that for the majority of the
19 registrations which were provided for at least the 2014
20 data, that that wasn't actually a field that was
21 completed?---The spreadsheet would certainly indicate that,
22 yes.

23 Just moving across, we then have a field for Primary Cause of
24 Death and Secondary Cause of Death?---That's right.

25 Is it the case that a medical practitioner, or indeed a coroner,
26 essentially writes as much or as little information as they
27 see fit?---That is correct, yes.

28 And some complete a Secondary Cause of Death field and some
29 don't?---And some don't, yes.

30 But there isn't a set amount of information which forms part of
31 those fields?---No, only that there has to be at least one

1 cause of death. Sometimes there will be one. They might
2 have five or six things listed.

3 Just coming back then to the issue of how complete, if I can use
4 that term, this information is that the board received and
5 that issue of completed status and pending status, is it
6 possible that these materials and data that the board
7 received on 17 July this year don't actually show us all
8 the deaths for, for example, the start of
9 2014?---Potentially, yes, because if there's any that are
10 still "pending coroner" or "pending investigation" for some
11 other reason, they wouldn't be included in the data that's
12 been provided so far.

13 And is that now something that the board has asked Births,
14 Deaths and Marriages to follow up, to provide that complete
15 picture?---Yes, they have.

16 And I understand you have to gain some assistance from an
17 external IT consultant?---It is quite a complex request
18 because we're not just looking at one status, namely
19 "complete", we're looking at a whole range of statuses of
20 where that death is sitting in the system, so, yes, we have
21 to engage someone to do that for us.

22 When is it expected that you'd be in a position to provide that
23 full picture to the board?---We would be able to have that
24 to you by mid-October.

25 And, in fact, that's put in your statement as 14 October, as
26 being a date that is manageable from the perspective of
27 Births, Deaths and Marriages and the IT consultant?---Yes,
28 that's correct.

29 When that data is provided, that fuller picture, that will be
30 able to tell the board whether, for example, there's any
31 additional deaths which had "pending" status which ought be

1 added to the number which is already obtained by the
2 board?---Yes, you have the number you've got now and we'll
3 be providing a number - because my understanding is it is a
4 count only, this additional information, so you'd be able
5 to work out January 2014 we've got whatever number and the
6 new number is this, so the difference is the deaths that
7 are not complete at this stage.

8 Thank you very much.

9 PROFESSOR CATFORD: I wonder if I could just follow that up,
10 just so I'm clear about this. In 2014 there may well be
11 some additional deaths that haven't been included in the
12 analyses that we've undertaken or
13 commissioned?---Potentially, yes.

14 And given that we're referring back to 2009-2013, are there
15 likely to be unincluded deaths in that data set or would it
16 be less likely?---Less likely. The further you get away
17 from a date, the less likely it is that there is going to
18 be additional data.

19 So the 2009-2013 data set is probably much more likely to be
20 fully complete more than the 2014 data set, where we may
21 still have some additional deaths to include?---That's
22 right, and whilst potentially there can still be some
23 additional ones in those earlier years, the likelihood is
24 less than the more recent deaths.

25 Thank you very much.

26 <CROSS-EXAMINED BY MR NEAL:

27 I just have a couple of matters if I could clarify with you,
28 Ms Sims. The attachment 1 document that you've been
29 referring to that was up on the screen, I think the body of
30 your statement says that is a first and a last page, so it
31 is a much bigger document?---Yes.

1 And it wasn't purposeful to give the whole version because it is
2 redacted anyway?---That's correct.

3 Can I ask you this, if you're able to answer me: where the
4 column headed Postcode Place of Death appears, the pages
5 that we have, and I think your evidence already indicated
6 this, mostly don't show that information?---That's correct.

7 Is it fair to ask you if we were looking at the whole redacted
8 document, we'd see lots of blanks in that same column, it
9 is a fairly representative - - -?---If that is
10 representative of the whole document, then yes.

11 I think my question was can you tell me whether or not you think
12 it is representative. On the two pages that we see, to be
13 fair to you, it seems it is much the exception to the rule
14 that we get the information?---The postcode, yes.

15 My question was simply if we look through the whole redacted
16 document - - -

17 MS SHANN: If I can assist. We've got that redacted data here.

18 MR NEAL: I'm grateful for the offer. If the witness would like
19 to proffer whatever she can, I'll take that for the
20 moment?---All I can say is if those two pages are
21 indicative, then - - -

22 Okay, I understand your answer. In the unredacted form, if I
23 understand correctly, the Postcode of Usual Place of
24 Residence is the information that you say the funeral
25 director might have got from a next of kin very
26 often?---Frequently, yes.

27 And that would be a residence but what we would have had here,
28 if this document were not redacted, would be a postcode,
29 ,not a residence?---Sorry, I don't understand the question.

30 A residence might be such-and-such a street in such-and-such an
31 area, with postcode X on it. I understand the heading here

1 indicates to us you would see a postcode, a number?---Yes.
2 In the instances where the document does give us the actual
3 place of death, is it fair to understand that there is, on
4 the document itself, no way of understanding when the
5 person might last have been at their usual place of
6 address?---That's correct, yes, we wouldn't know that.

7 Thank you.

8 MS SZYDZIK: No questions.

9 CHAIRMAN: Thank you, Ms Sims. You are excused.

10 <(THE WITNESS WITHDREW)

11 (Witness excused.)

12 CHAIRMAN: You'll have an idea of the time, whether we can
13 afford to take a break.

14 MR ROZEN: I think we probably can.

15 CHAIRMAN: In that case, you nominate the time that we resume.

16 MR ROZEN: Can we say 10 past 12.

17 CHAIRMAN: 10 past?

18 MR ROZEN: Yes.

19 CHAIRMAN: Yes, we'll resume at 10 past 12.

20 (Short adjournment.)

21 MR ROZEN: The next witness is Linda Cristine.

22 <LINDA CRISTINE, affirmed and examined:

23 Ms Cristine, make yourself comfortable there. Just to repeat,
24 your full name is Linda Cristine?---Yes, my full name is
25 Linda Cristine.

26 And we spell your surname C-r-i-s-t-i-n-e, no H?---That is
27 correct.

28 And you're currently a director of the Inquiry response team for
29 the Department of Health and Human Services?---Yes.

30 And your current work address is 50 Lonsdale Street,
31 Melbourne?---That is correct.

1 For the purposes of the Inquiry have you made two witness
2 statements?---Yes.

3 If you open the folder, it's probably open already behind tab 4,
4 do you have there the first of those statements dated 18
5 August 2015?---Yes.

6 And that is a copy of the statement that you made, and have you
7 had a chance to read through that before coming along to
8 give evidence today?---Yes, I have.

9 Is there anything you wish to change?---No.

10 Are the contents of the statement true and correct?---Yes.

11 #EXHIBIT 3 - Witness statement of Linda Cristine, dated
12 18/8/2015

13 More recently, Ms Cristine, if you can turn to tab 5, please in
14 the folder. You will see a statement, the document ID is
15 VGSO.1012.002.0001?---Yes.

16 That is headed, "Supplementary witness statement of Linda
17 Cristine", dated 31 August 2015?---Yes.

18 Once again have you had an opportunity to read through the
19 supplementary statement?---Yes.

20 And is there anything in it you wish to alter?---No.

21 And the contents of that are true and correct?---Yes.

22 #EXHIBIT 4 - Witness statement of Linda Cristine dated
23 31/8/2015.

24 Whilst we have the supplementary statement there, if we could
25 scroll down to the attached doc ID, VGSO.1012.002.0003.
26 Can you briefly tell us what it is we're looking at?---This
27 is one subcomponent of the division of the Department of
28 Health and Human Service and it covers the area of health
29 protection regulations and emergency management. This
30 shows the staff in the health protection branch and the
31 office of the chief health officer, and in yellow in the

1 middle is the deputy secretary, Amanda Cattermole of that
2 division and left and right of that is a box, myself in the
3 acting role at that time as the director of health
4 protection, and on the right the acting chief officer. You
5 can see there is a smaller branch under the office of chief
6 officer with specialist position and a vast majority of the
7 staff, about 140 reporting through line management to the
8 director of health protection.

9 We see two lines leading ultimately to the deputy secretary

10 Ms Cattermole, one from the right-hand side of the page, in
11 the acting chief health officer's column?---M'mm.

12 And the other is from the column that had you as head acting
13 director of health protection, is that right?---Yes.

14 Whilst we're on that page we might just identify a couple of
15 other people whose names appear in the material. Firstly
16 if we look down the right-hand side of the page leading up
17 towards the acting chief officer, Danny Csutoros?---Yes.

18 Dr Csutoros is there described as a senior medical advisor with
19 a direct line to the acting chief officer?---That is
20 correct.

21 And then in turn answering to Dr Csutoros is a Mr Brett Sutton,
22 public health officer?---Dr Brett Sutton, yes.

23 Then going back up to the yellow box directly under and slightly
24 to the right of that we see a box with the name Sandra
25 Falconer, manager, environmental health?---That is correct.

26 And within that branch we see Vikki Lynch and Christy Boucher,
27 can you briefly describe to us what the environmental
28 health - is it a division or a branch?---You can call it a
29 unit, that might help.

30 What is the role of that unit, just tell us briefly?---They
31 provide expert advice and assistance in working through and

1 addressing what might be environmental risks that have an
2 impact on health. They work very strongly with other
3 agencies so in partnership with the EPA in particular and
4 they respond to incidents or alerts and assist in making
5 sure we can mitigate any risks.

6 We know from the evidence of the first Inquiry, and I know you
7 weren't involved, but we know from evidence that Ms Lynch
8 in particular was involved in responding to concerns about
9 raised carbon monoxide levels during the course of the
10 Hazelwood fire, that is consistent with the role you have
11 just described?---Yes.

12 If we leave the organisation chart for a moment noting it is as
13 at 20 March 2015, you commenced to hold the position of
14 acting director of health position, is that right?---Yes.

15 If we can go back to just clarify briefly the different roles
16 that you held which are of relevance to the Inquiry. As I
17 understand it from the statements, you have been with the
18 department from February 2011?---Yes. If I can clarify
19 that, the Department of Health and Human Services has been
20 an iteration post a machinery Government change that
21 involved the Department of Human Services, the Department
22 of Sport and Recreation and the Department of Health, so
23 I'm referring to the department generally as the entire
24 Department of Health and Human Services as it is now.

25 I understand. Just for the record, when did the name change
26 from health to Health and Human Services?---Now someone's
27 going to correct me, it's either November or December, post
28 the election.

29 Late 2014?---Yes.

30 Thank you. Using that general description of the department
31 which I think for our purposes is fine, since joining in

1 February 2011 you have had several roles, and your current
2 role is as you have told us a moment ago, you're the
3 director of the Inquiry response team, that is the response
4 team that has been put together to respond to this
5 particular Inquiry, is that right?---Yes.

6 Significantly for our purposes, before you assumed that role you
7 were the acting director of the health protection branch
8 which is the role we have just looked at on the
9 organisation chart?---That is correct.

10 And am I right I saying you assumed that role on 20 March
11 2015?---Yes.

12 Attached to your first statement which is exhibit 3, and I don't
13 think I need to take you to these, there are a number of
14 fact sheets for want of a better expression, released by
15 the department in September and October of 2014, are we to
16 assume you had no role in their preparation?---No, no, I
17 didn't.

18 Would Dr Lester be a better person to ask about those documents
19 and how they came into existence?---Dr Lester had a role,
20 yes.

21 The contact between the department and University of Melbourne
22 which we know from your statement was engaged ultimately to
23 provide three reports to the department concerning the
24 broad issue of any relationship between the Hazelwood coal
25 mine fire and an increase in deaths in the Latrobe
26 Valley?---Yes.

27 And for completeness, and once again I don't need to go to these
28 now, but the completed reports for the board are behind
29 tabs 10, 11 and 12 of the hearing book. Perhaps if I just
30 clarify it with you, the first report provided by the
31 university was on 26 September 2014?---Can I check that?

1 You certainly can, I was going to ask you to take my word for it
2 but I won't push my luck?---If it's what's in the
3 statements it's correct.

4 If you look at your first statement, exhibit 3, in paragraph
5 15.10 you say: "On or about 26 September 2014 the
6 University of Melbourne provided the department the
7 report", which you then set out the title of?---Yes, that's
8 right, the date's correct.

9 That was the first report received by the department from the
10 University of Melbourne. As you explain in paragraph 16 of
11 your statement there was a further request of the
12 department to provide two things, an updated version in a
13 sense of that first report was informed by some additional
14 data which had become available?---Yes.

15 And at the same time to provide a critical analysis of two
16 unpublished papers that were prepared by Associate
17 Professor Adrian Barnett of the Queensland University of
18 Technology?---Yes.

19 And you attach to your first statement the project briefs that
20 were prepared by the department and sent to the University
21 of Melbourne requesting those reports?---Yes.

22 Can I ask you about the first of those project briefs that you
23 attach, and I know this is before your time in the relevant
24 position and so you may or may not be able to help us with
25 this, but can you turn to attachment 5A of your statement
26 which is on page VGS0.1012.001.0015 and for your
27 assistance, Ms Cristine, you will see those numbers in the
28 top right-hand corner of the page, they are the last four
29 digits and sequential if that makes sense; go to a page
30 where the last two digits are 15 in the right-hand corner,
31 you should have a second page of attachment 5A to your

1 statement?---Yes.

2 Look towards the bottom of that page with a heading of

3 "deliverables", and that was what was expected to be

4 provided by the consultant, are you able to assist the

5 Inquiry in understanding how it was that the University of

6 Melbourne and in particular Dr Flander were chosen to

7 provide this and later reports?---No, sorry, I'm unable to

8 determine why Dr Flander in particular was chosen except

9 from conversations that she and her team had relevant

10 expertise but that's all I can provide.

11 Is that something that once again perhaps it would be better

12 broached with Dr Lester?---Yes, maybe.

13 The project brief required a preliminary assessment to be

14 provided, do you see that under the heading,

15 "Timeframe"?---Yes.

16 In your experience is that a normal process for these sorts of

17 reports when they are requested by the department?---In my

18 experience it's not unusual when we engage consultants of

19 any type to ask for preliminary or draft documents.

20 And what purpose is served by doing that? Why are preliminary

21 or draft documents requested by the department?---When we

22 engage external consultants to ensure we're trying to get

23 what the money we invest in that it's fit for the purpose

24 we're charged with, having a draft or preliminary

25 assessment allows us to make sure it's being delivered,

26 it's probably within the context of contract management.

27 Yes. And I think we can accept as a general practice it's

28 certainly not unusual within the public service?---No, it's

29 not unusual.

30 Do you agree?---Yes.

31 The process that was followed here, was that feedback that was

1 provided by the department upon receipt of the preliminary
2 assessments, do you agree with that as a general
3 proposition?---Yes.

4 And I will take you to one example, one specific instance of the
5 feedback in a moment, but if I can ask you some general
6 questions. Feedback in that setting can vary from minor
7 things, so identify typographical errors, for example,
8 might be one end of the spectrum, then at least in theory
9 the feedback could go right back to we don't like the
10 conclusion you have reached in paragraph 2, can you change
11 it so it reads as follows? I'm not suggesting that's what
12 has happened here but do you agree as a general proposition
13 that's the broad spectrum of comments that might be
14 provided in response to a preliminary report or
15 assessment?---I don't agree that it would be that broad but
16 there is a breadth of scope, there is no rule book for us
17 as public servants in providing feedback to consultants or
18 those that are engaged in a range of comments.

19 There is no rule book; is there some acceptable practice, so for
20 example, a response of, please change the conclusions on
21 page 2 would be an unacceptable comment?---In the context
22 of engaging people independently to come up with an
23 independent conclusion, that would be inconsistent. So no
24 rule book, I concede that, but there will be a variety of
25 comments that are provided with the expectation that their
26 comments and feedback and the expertise we engage would
27 make a call for it to meet to project brief about an
28 outcome that needs to be met.

29 You said a moment ago that where an independent consultant is
30 engaged to provide an independent report, a comment to
31 change a conclusion would be inconsistent with that. That

1 was the scenario here, wasn't it, the University of
2 Melbourne was engaged because of its independence of the
3 department?---Yes.

4 Had there been a pre-existing relationship between the
5 department and Dr Flander, do you know had she briefly
6 provided reports to the department?---I don't know that,
7 sorry.

8 In relation to the request for the University of Melbourne to
9 provide a medical analysis of Associate Professor Barnett's
10 work, are you able to assist the Inquiry into why that was
11 considered to be appropriate?---My understanding from
12 making enquiries within the team has been that that
13 particular report had a profile in the media and so it was
14 a consideration for us to have a look at that particular
15 material that did get, if you like, media coverage and
16 quite a level of interest to see what was there really.

17 I want to take you to the point at which Dr Lester retired as
18 chief health officer which I think I'm right in saying was
19 late February this year?---Yes.

20 And was Mr Ackland then put in the position as acting chief
21 health officer immediately after Dr Lester retired?---Yes,
22 he was.

23 An email has been provided to the Inquiry amongst a number of
24 emails that the Department of Health provided in which
25 Dr Lester who had up until that time been in communication
26 with the University of Melbourne about these consultancy
27 reports identified Dr Csutoros as the point of contact.
28 I'm not sure if they are the precise words used but
29 identified Dr Csutoros as the person to contact by the
30 University of Melbourne; can you explain to us whether what
31 Dr Lester was saying was Dr Csutoros is now filling the

1 role I have hitherto performed, or was she saying something
2 else, or once again is that something we need to ask
3 Dr Csutoros?---I can explain that. Again within general
4 good contract management we do like our consultants to have
5 somebody they can email or ring, not to leave that as a
6 vacuum. So that's my understanding, he was provided as a
7 point of contact for the principal researcher and was not
8 taking on the full role and responsibilities as an acting
9 chief officer. I would explain that in terms of I think
10 the email was the day before Dr Lester's last day with the
11 department, that's probably in the context of wrapping up
12 affairs, you're obviously very welcome to check that.

13 That's all right. Thank you. So just so I can understand that,
14 who did fulfill the role of Dr Lester in relation to the
15 oversight of management of these contracts once she
16 departed?---The general oversight of those three pieces of
17 work then rested back in the health protection branch, so
18 that chart I referred to earlier, the director of health
19 protection signed the contract. There is a team within
20 that strand which is strategic projects so we were
21 searching for an appropriate staff member in the strategic
22 projects team to make sure they could do the project
23 management of that amongst any others as well.

24 And who was that person that was - - -?---Dr Andrew Neil and
25 hopefully he's in the chart at that point in time.

26 Perhaps going back to the chart, that is the third page of the
27 supplementary statement?---It's in a green shaded box, the
28 third column across down the bottom, it says Miranda is the
29 manager of the health protection strategic projects. So
30 slightly to the left of the screen and down.

31 Down?---And third from the bottom is Andrew Neil, senior policy

1 and project officer, it did take us a little while.

2 And the relationship between Dr Neil and Dr Csutoros and the

3 reason I ask is we see Dr Csutoros' names on several emails

4 as providing comment, what was the relationship between

5 Dr Csutoros and Dr Neil?---Dr Danny Csutoros is one of two

6 senior medical advisors in the office of the chief health

7 officer. My understanding is that the senior medical

8 advisors will take primary responsibility for a group of

9 teams about particular public health risks and issues.

10 Danny Csutoros was taking responsibility for the

11 environmental health portfolio and Dr Romanes was taking a

12 large responsibility in communicable diseases amongst other

13 things, and so Danny's role as a senior medical advisor is

14 to provide that senior advice as a practitioner to anyone

15 in the team dealing with environmental health issues and a

16 good person to provide comment or feedback or review for

17 any projects that are related to environmental health.

18 I will see if I can short circuit this, we have already

19 identified the first report provided on 26 September

20 2014?---Yes.

21 And we know there were two further reports provided by the

22 University of Melbourne, one was the critical analysis of

23 the work of Associate Professor Barnett and the other was a

24 more detailed analysis of the data. The first of those,

25 the critical analysis, the final report was provided in

26 April 2015?---That's correct.

27 And the second came in June 2015?---M'mm.

28 The initial project brief, I wonder if you would agree,

29 envisaged there would just be one further report that would

30 address both of those issues, that is the critical analysis

31 and the further analysis of the data?---I'm not sure that's

1 correct.

2 Probably doesn't need to trouble us?---Okay.

3 I suggest what happened is both aspects were expected but there

4 was a delay in the provision of further data to the

5 University of Melbourne, so they said we will provide you

6 with a critical analysis of Barnett first and then when we

7 get the further data we will provide you with a later

8 report?---That is correct, yes.

9 Thank you. So I want to ask you about the provision of that

10 first report, the critical analysis. And if you turn to

11 the second folder behind tab 34, DHHS.1008.001.0060. Do

12 you see this is an email from Dr Flander at the University

13 of Melbourne to Danny Csutoros of the health

14 department?---Yes.

15 DHHS. And this is dated 13 March 2015 which of course is

16 subsequent to Dr Lester's retirement?---Yes.

17 So consistent with the arrangement for Dr Csutoros to be the

18 point of contact, he's the recipient of this email, is that

19 right?---Yes.

20 And you will see half-way down the page it reads: "Dear Danny,

21 attached is our final draft report on the Barnett

22 statistical analyses and ... (reads) ... required by the

23 project brief." Do you see that?---Yes.

24 And again that's consistent with this splitting of the two parts

25 of the outstanding work?---Yes.

26 Right. If you go behind tab 33 in the folder to a page that is

27 coded DHHS.1008.001.0504, you should have a draft report

28 provided dated 13 March 2015?---I must.

29 Have you got tab 33?---I'm in the wrong tab, 005?

30 0504?---Yes, I have it, thank you.

31 And it should be a draft report altered by Louisa Flander and

1 Anthony Ugoni dated 20 March 2015?---Yes.

2 I have certainly had some difficulty working out which draft

3 report was attached to which email, I understand you also

4 have been engaged in a similar exercise over the last few

5 days?---Yes.

6 Do you agree that the draft report which I have just drawn your

7 attention to dated 13 March 2015 was the draft report

8 attached to the email of the same date?---Yes, that's my

9 understanding.

10 Perhaps I might ask you if I can to remove the draft report from

11 the folder. My instructing solicitor's eyebrows have just

12 been raised but I think it would be the easiest way to do

13 this, so have you taken out the four page draft

14 report?---M'mm.

15 And immediately after it I hope you have a further draft of that

16 report dated 9 April 2015?---Yes.

17 DHHS.1008.001.0508?---That's correct.

18 That's a slightly longer five page report, can I ask you to take

19 that out of the folder as well, please, and put the two of

20 them to the side. Then keeping same folder in front of you

21 can you go to tab 34?---Yes.

22 If you go to page DHHS.1008.001.0066?---Yes.

23 Thank you. Do you see there an email from Danny Csutoros to

24 Louisa Flander dated Friday, 27 March 2015?---Yes.

25 And the main part of the email reads: "Hello Louisa, great

26 report. As discussed please find attached comments, speak

27 soon, cheers Danny"; do you see that?---Yes.

28 Do you agree with me that the comments that were attached to

29 that email were comments on the first of those draft

30 reports, that it is the one dated 13 March 2015?---Yes,

31 they are.

1 And then just to complete the picture, can you turn back a
2 couple of pages to a page DHHS.1008.001.0062?---Yes, that
3 it one.

4 Do you see that's headed DH feedback to Louise Flander of
5 Melbourne?---Yes.

6 Do you agree they are the comments that were attached to the
7 email from Dr Csutoros that was responding to the draft of
8 13 March?---Yes, they are.

9 Having done all of that if you keep those open, please. Do you
10 agree with me that the comments that are there - and take a
11 moment to read them if you need to, they are quite detailed
12 and there is a degree of technical complexity about the
13 comments that were made; is that a fair general
14 statement?---I probably don't agree, I think the comment -
15 I don't think the comments are technical per se, I read
16 most of the comments as asking questions that it would be
17 good to have answered, i.e., "Can you please clarify", "it
18 would be good if you could", "does this relate to". Many
19 of them, or most of them, are framed as questions.

20 I see. Do you see comment number 2, that starts with reference
21 to the statement, "Although the fire's effect on mortality
22 is a plausible hypothesis, the data presented do not
23 suggest strong evidence for this hypothesis", do you see
24 that?---Yes.

25 It goes on then and refers to Barnett's analysis?---Yes.

26 And then there is a paragraph, "It is suggested that references
27 be included to explain why this hypothesis would be
28 plausible." Then if you look at the next paragraph, almost
29 in the middle of the page, "Alternatively, is it possible
30 that the conclusion could be drawn instead that the data
31 presented do not suggest strong evidence for the author's

1 hypothesis that the fire had an effect on
2 mortality"?---Yes, I see that.
3 That is a suggestion, is it not, that a different conclusion be
4 drawn by the consultant, do you agree?---No, I don't. I
5 think it is a question. There is a suggestion that says
6 the previous one, the references - it would be good in a
7 reference to explain that and then question posed, is it
8 possible that something else could be drawn, it is a
9 question. It doesn't have a question mark at the end, I
10 notice, in the feedback, but - - -
11 We're not marking the grammar?---No.
12 I'm not so concerned about that. So you don't read - let's call
13 it a question - "Is it possible that the conclusion could
14 be drawn instead that the data presented do not suggest
15 strong evidence for the author's hypothesis that the fire
16 had an effect on mortality", you don't read that as a
17 comment that an alternative conclusion be reached by the
18 consultant to the one in the draft report?---No, I do not
19 read it as a conclusion should be reached, I read it as a
20 question, "is it possible".
21 So you stand by the proposition, do you, Ms Cristine, that you
22 wouldn't describe these suggestions as ones that have a
23 degree of technical complexity about them?---Most of them
24 are posed as questions rather than - so, yes, the answer to
25 the question is yes, I do think that they are posed more as
26 questions than suggestions.
27 All right. A moment ago I asked you about the email that
28 attached those comments. Can you please turn to page 65,
29 that is DHHS.1008.001.0065?---Yes.
30 And as is the case with email communications, we've got to read
31 the pages backwards, do we not?---M'mm-hmm.

1 So we see at the bottom of the page there, I suggest, the
2 response that was received by the department, Dr Csutoros,
3 from Louisa Flander on the same date that the comments were
4 sent, do you see that, on 27 March 2015, 12.59?---Yep.

5 If I've got my maths right, that was a little more than half an
6 hour after the email of Dr Csutoros was sent, I think 38
7 minutes, do you agree with that?---Yes.

8 And the response was, "Hi, Danny. Many thanks for these useful
9 comments. We will incorporate all the suggestions and
10 return the report to you by Wednesday." Do you see
11 that?---Yes.

12 And just to complete the chain, some 22 minutes later
13 Dr Csutoros wrote back, you'll see at the top of the page,
14 "Hi Louisa. Just for the record, they are comments given
15 to prompt discussions and thinking and we will leave final
16 judgment of inclusion completely to yourself"?---Yes.

17 I know you weren't the author of this, Dr Csutoros was, but I
18 suggest to you that it looks like, firstly, Dr Flander was
19 very keen to give effect to all of the comments - - -

20 MR BLANDEN: If the board pleases, can I object to this line of
21 questioning. It seems to us that counsel assisting is
22 clearly cross-examining the witness and not leading
23 evidence from her, for a start, and it is hard to see how
24 questions that relate to email correspondence between the
25 department and Dr Flander of the university in relation to
26 the first report go to the question that the board is
27 considering and the term of reference, which essentially,
28 one would have thought, was a factual exercise in
29 determining whether deaths were there or not and what the
30 causation of those deaths were.

31 CHAIRMAN: I'm not prepared to stop the questioning, but if it

1 went on into a series of matters, I certainly would be
2 prepared to do so. At this stage I'm prepared to allow
3 this questioning.

4 MR ROZEN: If the board pleases. I should add I'm trying to do
5 this in as focused a way as I can but equally I need to
6 refer to all of the material - - -

7 CHAIRMAN: Some specifics, yes.

8 MR ROZEN: - - - in fairness to everyone involved.

9 (To witness): Would you like me to repeat the last
10 question that I asked you, Ms Cristine?---Yes, please.

11 I'm really asking you to comment on this observation: it would
12 appear that Dr Flander very promptly responded to what I
13 suggest to you were quite detailed comments in a manner
14 which suggests that she was prepared to adopt them without
15 perhaps detailed consideration?---I can't comment about
16 Dr Flander's state of mind when she wrote the comments
17 back. It seems really polite, it seems really suggesting,
18 "thanks for the useful comments", "we'll take on board your
19 suggestions", I don't think it says anything other than
20 "here they are", and Dr Csutoros has also confirmed that
21 these are comments to prompt discussion and thinking and
22 leaves the final judgment about the conclusions to
23 Dr Flander.

24 I suggest that Dr Csutoros' response is consistent with him
25 perhaps being surprised at the speed with which Dr Flander
26 responded and her preparedness to adopt all the suggestions
27 and incorporate them. Do you want to comment on
28 that?---No.

29 Do you disagree with that proposition, Ms Cristine?

30 MR BLANDEN: If the board pleases, the witness has just said she
31 doesn't want to comment on it and this is clearly

1 cross-examination.

2 MR ROZEN: I withdraw it.

3 CHAIRMAN: This is not a court of law. We are interested in

4 hearing questions that are testing. I'm prepared to put a

5 limit on them, but I'm not going to, at this stage, say

6 that it should not be allowed to go up to a point.

7 MR BLANDEN: I understand that, if the board pleases, but it

8 simply isn't helpful to the board for the witness - - -

9 CHAIRMAN: I think it is helpful to the board - I'll just

10 consult. We're in agreement it is helpful to the board.

11 MR BLANDEN: Thank you, Your Honour, but it is difficult to see

12 this witness' opinion of what another witness might have

13 thought, based on a short email, how that can be of

14 assistance to anyone.

15 MR ROZEN: Ms Cristine, do you still have the two draft reports

16 that I asked you to extract from the folder, that is the

17 one of 13 March and the one of 9 April?---Yes, I do.

18 If you could also have regard, please, to the comments that were

19 sent by Dr Csutoros and particularly the second comment

20 that I asked you about briefly a moment ago?---Yes.

21 I think I'm correct in identifying the relevant passage of the

22 draft report that was the subject of those comments is at

23 the bottom of page 2. The doc ID is

24 DHHS.1008.001.0504?---Yes.

25 If you look towards the bottom of that page, you'll see a

26 paragraph that starts, "There is no statistical

27 interpretation"?---Yes.

28 We see that the paragraph in the draft report read, "There is no

29 statistical interpretation of evidence for any particular

30 effect on the observed differences in reported mortality

31 across the Latrobe Valley postcodes for the period of the

1 Hazelwood Coal Mine fire", and then it went on, "Although
2 the fire's effect on mortality is a plausible hypothesis,
3 the data presented do not suggest strong evidence for this
4 hypothesis." Do you see that?---Yes.

5 Then if we go back to the comment that was sent from
6 Dr Csutoros, comment number 2, and this is on page 0062,
7 the third complete paragraph of the comment reads, "It is
8 suggested that references be included to explain why this
9 hypothesis would be plausible. This may be because
10 prolonged smoke exposure has been linked to increased
11 mortality and 'plausible hypothesis really means a
12 supposition worthy of investigation'." Do you see
13 that?---Yes, I do.

14 Then if we go to the draft report of 9 April, the one that was
15 provided after these comments were received, and that's
16 page 0509 - apparently we can have these on a split screen,
17 if the board pleases, and that might make it easier for a
18 comparison to be made. So on the left side of the screen
19 we have the draft report of 13 March and on the right side
20 we have the draft report of 9 April. We see, do we not,
21 Ms Cristine, that, at the second sentence in that
22 paragraph, the phrase "a plausible hypothesis" has been
23 replaced by "a supposition worthy of investigation". Do
24 you see that?---Yes, I do.

25 And that was the precise suggested change in the comment that
26 was sent by Dr Csutoros, was it not?---Yes.

27 And it weakens the report, does it not?---I don't know. I don't
28 know if it weakens it or not.

29 What is being said in the draft report is that Associate
30 Professor Barnett's work consists of a plausible hypothesis
31 and we now see in the later draft that that has been

1 reduced to "a supposition worthy of investigation". That
2 is a weakening, is it not, of the description?---I don't
3 know. I don't know whether those phrases are stronger or
4 weaker, one or the other. I do know that, as you can see
5 in that feedback, it does say - it is suggested, and it was
6 a suggestion, that "references be included to explain why a
7 hypothesis is plausible". I'm not sure that I can see that
8 on these versions, but, yes, I can see that some words have
9 been changed. I do not know if it makes it stronger or
10 weaker, I'm just not in a position to comment.

11 That is fine. Just one final matter about comment number 2. I
12 have already asked you about the sentence that reads in the
13 middle of the page, "Alternatively, is it possible that the
14 conclusion could be drawn instead that the data presented
15 do not suggest strong evidence for the author's hypothesis
16 that the fire had an effect on mortality." Do you see
17 that?---Yes.

18 And that, of course, was the central hypothesis in Associate
19 Professor Barnett's work, that the fire had an effect on
20 mortality, would you agree?---I'm not 100 per cent sure of
21 Dr Barnett's central hypothesis.

22 MR NEAL: Could I rise at this stage to say that that is also a
23 dangerous hypothesis for the witness. I would have read
24 what is a correct understanding of Associate Professor
25 Barnett's document as saying there may be a temporal
26 correlation.

27 CHAIRMAN: I think it is enough detail. The evidence from the
28 witness has made it clear she is not sure. I don't think
29 we need to go into the matter further.

30 MR ROZEN: Just one final question, if I could be permitted,
31 about this sequence of events. If you look at the 9 April

1 report, draft report, towards the bottom of page 2, so if
2 we can go back to 0509, please. Do you have that
3 there?---Yes.

4 The very expression - or very close to word for word as
5 suggested in the comment appears in the later draft, does
6 it not, "The data presented in these papers do not suggest
7 strong evidence for the author's assertion of a significant
8 effect of the period of a fire on mortality at that
9 time"?---Yes.

10 That is almost word for word with the suggested insertion in the
11 comment, isn't it?---Yes.

12 I note the time, members of the board, and I'm about to go on to
13 a new topic, so perhaps it might be an appropriate time.

14 CHAIRMAN: Yes. We'll adjourn now and resume at 2 o'clock.

15 <(THE WITNESS WITHDREW)

16 LUNCHEON ADJOURNMENT

1 UPON RESUMING AT 2.00 P.M.:

2 <LINDA CRISTINE, recalled:

3 MR ROZEN: Ms Cristine, I think before the luncheon adjournment
4 I'd been asking you some questions about the communication
5 between the department and the University of Melbourne
6 about the report which was the critical appraisal of
7 Associate Professor Barnett's work. Do you recall
8 that?---Yes.

9 And I think you agreed with me earlier that there was a third
10 report that was ultimately provided by the university and
11 the department has provided us with a communication which
12 was between Dr Neil and Dr Flander about that report. I
13 think you're aware of those communications?---Yes, I am.
14 You told us earlier that Dr Neil in effect stood in the shoes
15 vacated by Dr Lester in terms of the principal role
16 communicating with the university. Maybe that is not a
17 fair characterisation of what you said to us earlier?---I
18 would qualify that to say Dr Neil stood in the role of
19 project manager to make sure the project is complete. He
20 didn't take on the responsibilities that would usually be
21 part of a chief health officer's role.

22 That probably leads to my next question. Why didn't Dr Ackland,
23 who was the acting chief health officer, why didn't he just
24 step into that role, do you know?---No, I'm not sure. I
25 would be speculating, but I actually think it is because
26 the project had moved into really clear written project
27 briefs, deliverables, come-back, it is not in the early
28 days of formation - that is a speculation.

29 Thank you. If I can change topic somewhat and ask you a couple
30 of questions about the long-term health study, please.

31 What role do you presently have in relation to the

1 management of the Monash University contract for the
2 long-term health study?---What role did I personally have?
3 Yes, if any?---I don't have a key role in that. Again, it is
4 considered now a project, it is a long-term project, and
5 the project management team, so Dr Andrew Neil again, is
6 just being a point of contact for that particular project.
7 My question goes to a specific issue, and that is the scope of
8 the study and whether it extends beyond residents of
9 Morwell to, for example, firefighters who visited Morwell
10 during the fire. We understand the position to be that it
11 is the former, that firefighters are excluded from the
12 scope?---Yes. Perhaps it would help that my current role
13 as a director in that team is to ensure that all of the
14 related projects that enable us to implement the
15 recommendations from the first report, the 2014 report from
16 the Hazelwood Mine Fire Inquiry, that they get completed,
17 so I'm driving a range of projects and that we are well
18 served to provide as much information as we can to assist
19 the Inquiry, the reopened Inquiry. The long-term health
20 study is one of those, so I have been asked that question
21 on clarifying the scope of the study and I can clarify that
22 the scope of the study is for the communities in Latrobe,
23 with focus on the community in Morwell.
24 Can you tell us why, for example, firefighters are excluded from
25 the scope, that is firefighters who are not resident of
26 Morwell?---That's correct. If a firefighter or a responder
27 is a resident of Morwell, they would be included. In those
28 deliberations, my understanding is that firefighters and
29 responders who are outside the area or interstate might
30 have their own, and I know in the view of the CFA, have
31 their own program or study about monitoring health impacts

1 and the purpose of this particular long-term health study
2 was about residents.

3 The Inquiry has been provided with a letter from the government
4 dated 28 August 2015. It is behind tab 36 in the hearing
5 book. I don't have a doc ID?---It is only two pages.

6 I do now. VGS0.1014.001.0001. Do you have that letter in front
7 of you?---Yes.

8 And it is on the screen?---Yes.

9 As you'll see, it is headed Scope of the long-term health study
10 and it starts, "We confirm that the DHHS carefully
11 considered the scope of the Hazelwood long-term health
12 study and determined the focus be on identifying potential
13 public and community outcomes for Latrobe Valley residents
14 impacted by the Hazelwood Mine fire"?---Yes.

15 And that is consistent with what you've just said to us, is it
16 not?---Yes.

17 If you could turn to the second page, please, the second
18 complete paragraph?---Yes.

19 You'll see it starts, "In relation to emergency responders in
20 particular, DHHS believe there would be significant
21 methodological issues to include non-resident firefighters
22 in the study." Is that a view that you hold?---Yes.

23 Can you explain what those significant methodological issues
24 are, from your perspective?---My understanding about
25 firefighters or responders is that there may be multiple
26 fires over an occupational lifetime that would mean that a
27 different study would need to be designed. I'm not an
28 expert in study design. I think it would be different
29 compared to a community that might be compared to a
30 different control community.

31 I would assume that the department would take some advice from a

1 consultant from Monash University about such methodological
2 issues?---We might take advice from a range of sources, but
3 included in particular, given paid firefighters and CFA
4 have a range of programs, I'd also take advice from other
5 government agencies and other providers who work in
6 partnership with the CFA and we would need to consider what
7 other programs are in place and there may be a range of
8 experts who could provide some information or advice about
9 methodology as well.

10 Do you know if there has been any discussion with Monash
11 University about whether those methodological concerns
12 could be overcome?---No.

13 You don't know whether there's been any conversation?---Not to
14 that specific question, about whether those methodological
15 issues could be overcome within the existing mine fire
16 study, no.

17 Just so I understand your answer, are you saying you don't know
18 whether there have been those discussions or there have not
19 been those discussions?---I don't know if there have been
20 those discussions in relation to the very specific question
21 of whether methodological issues could be overcome within
22 the scope of the existing long-term health study.

23 Do you think it would be helpful to have those discussions with
24 Monash University?---I think it would be helpful to have
25 those conversations with a range of people, and I have
26 mentioned the CFA, but there might be others. But yes, I
27 think it would be helpful to have further conversations
28 about this and to work through what is existing.

29 I should tender that letter, if the board pleases, that is the
30 letter of 28 August 2013, behind tab 36.

31 #EXHIBIT 5 - Letter dated 28/8/2013, VGSO to HMFI.

1 Just before I end my questioning of this witness, there are a
2 number of documents which I reflected to tender - that is
3 the draft reports and the email communications. I've got
4 the document identifications but I don't have the
5 descriptions in front of me. If it is acceptable to the
6 board, I'll put together a list and tender those documents
7 first thing tomorrow.

8 CHAIRMAN: Yes, that probably is a better way. It will take up
9 less time.

10 MR ROZEN: That concludes my questioning of Ms Cristine.

11 PROFESSOR CATFORD: Could I just ask a few questions. Thank you
12 very much, Ms Cristine, for your evidence. Can you just
13 explain what your current role is about. I'm not quite
14 clear about that?---My current role is I'm one of many
15 executives in the department - it is a large department -
16 and I'm nested in the team to specifically ensure that we
17 provide as much information, as open as we can, to the
18 reopened Inquiry, for this one, and to ensure that the
19 deliverables and the commitments that we made from the
20 recommendations and affirmations and proposals for further
21 consideration in the first report, that they progress in as
22 rapid a way as we can.

23 I wonder if I could just refer to communications. We've heard
24 some evidence from Ron Ipsen earlier on today about very
25 minimal - no contact with Voices of the Valley over the
26 issue around deaths. Do you think that was the appropriate
27 strategy for the department, basically not to communicate
28 with Voices of the Valley?---I don't agree that we haven't
29 communicated, but if I can make the comment, and I'm going
30 way beyond just answering a straight question here, testing
31 whether communications are adequate or not is usually about

1 the receiver, and whether the level of engagement has been
2 adequate or not, then that's from the receiver. So I don't
3 agree that we haven't made attempts to communicate.

4 Can you explain to us what attempts have you made to communicate
5 with them about their concerns about excess deaths?---I
6 wouldn't be precise if I wanted to give you a quantity or
7 numbers or attempts, so I'd have to take that on notice.

8 What sort of things, broadly? Did anyone actually meet with
9 them from the department?---I would have to check who has
10 met with them, but I understand there have been meetings
11 between agencies and Voices of the Valley or with
12 government, but I would have to get you the details, the
13 dates and who they were, to represent that accurately.

14 I think that would be very helpful because we heard earlier that
15 there had been no communication with Voices of the Valley
16 and clearly there has been a lot of anxiety in the
17 community about this, to the point that they're actually
18 fundraising to buy data from the Registrar of Births and
19 Deaths, quite an unusual step. So clearly they weren't
20 feeling that the department was supporting them in trying
21 to understand what was going on in terms of deaths, would
22 that be fair?---I think we have heard that and, as I said,
23 how communication or engagement is received is actually
24 what matters, so I think that is fair.

25 And we still basically don't know what engagement the department
26 had then and you're not able to help us any further?---I
27 can find out the details. I know there has been some, but
28 I think you want it to be as accurate as possible.

29 Yes. The point behind this is just a few weeks before this was
30 occurring, the state presented advice to us in the former
31 Inquiry that they were committed to improve communications

1 with the local community and it was one of the actions that
2 the state mentioned, and I just quote from our first
3 report, on page 35. The Victorian Government said, "The
4 state will improve local engagement on health issues."

5 Well, clearly, if a number of people are really concerned
6 about excess deaths, that is a pretty important health
7 issue, so local engagement would be very important, would
8 you agree?---Absolutely, and I can say from that first
9 report that one of the strategies that we put in place was
10 to source funds - you don't do that very quickly - so that
11 we could recruit in particular a community engagement
12 officer specifically for Morwell, and I understand that
13 that is under recruitment, so that we can improve it, but
14 we resource the improvement as well. So I know that that
15 is in train.

16 I think perhaps, looking at our counsel, we could gain some
17 information on what the level of engagement was with Voices
18 of the Valley and other community members about this
19 concern about deaths?---Yes, certainly.

20 Just finally can I ask you about Dawn Sims' evidence, and I'm
21 referring, if someone could find this, it is the second
22 submission, WIT.0002.001.0001 and it is on the second page.

23 You might be able to find that?---Is that the first folder?

24 It is the first folder, tab 2.

25 MRS ROPER: 3.

26 PROFESSOR CATFORD: Tab 3?---Yes.

27 If you would turn to the second page. At the top, in para 10,
28 it says, "The registrar contacted DHHS to confirm whether
29 it was appropriate to refer Dr Gunter to the public health
30 unit to assist him with his request for data. DHHS
31 declined this approach." So on the basis that you had

1 already committed to engage locally on health issues, do
2 you know why the department didn't follow up that lead from
3 Births, Deaths and Marriages to engage with Dr Gunter and
4 other members of Voices of the Valley about their
5 concerns?---I'm not 100 per cent sure. I read that as
6 would we provide the data that we have on and my
7 understanding from internal enquiries is that best they get
8 the data from the source rather than through us, so I'm not
9 sure the question was on engagement, I thought it was
10 simply about would we provide data that we might have.
11 So certainly on 17 August obviously the department knew that
12 there were enquiries coming and so that would have given a
13 good indication it was a good time to engage with the
14 community on this, so perhaps we'll wait for that further
15 information to see how the department did respond?---Okay.

16 Thank you very much. Thank you.

17 CHAIRMAN: Any questions?

18 <CROSS-EXAMINED BY MR TERNES:

19 Ms Cristine, if I could take you to document ID - you were asked
20 a number of questions by counsel assisting in relation to
21 communications between your department and Dr Flander. I'd
22 like to take you to a couple of documents in that respect.
23 If I can take you to document DHHS.1008.001.0072. That is
24 at tab 34 of your folder?---I just need a reminder. Was it
25 0032?

26 0072, tab 34?---I have that.

27 Do you have that document there?---It is an email, yes.

28 So that is an email. For the board's reference, that is 0072.

29 Can you identify that document? It appears to be an email
30 from Dr Andrew Neil to Dr Flander; is that right?---That's
31 correct.

1 Dated 28 April 2015; is that right?---Yes.

2 If I can take you down to the second substantive paragraph of
3 that email. I can see that is on the screen as well. I'll
4 just read a section of that. It says, "Given that this is
5 a key finding of the paper", so a reference to no
6 additional deaths rather than the 0.8 deaths per postcode,
7 "we wonder if it could be included in the executive
8 summary." Then the email goes on to say, "If you're happy
9 to make this change, would it be possible to have the
10 finalised document back." Can you see that there?---Yes.

11 I take you next, if I could, to 0062, so still at tab 34. Do
12 you have that document there?---Yes.

13 That is entitled DH feedback to Louisa Flander, University of
14 Melbourne. Would you agree that this is a document that
15 was provided to Dr Flander in order for her to finalise one
16 of her reports?---Yes. I might just check what you mean by
17 "finalised". I think there was some other iterations, but
18 it was provided in order to provide comment and feedback in
19 the finalisation of the report, yes.

20 If I can take you to paragraph 6 of that document - that is in
21 fact on 0063. Under the second paragraph of document 6
22 there, at the end of that paragraph it reads, "This
23 statement has been used by the media", and "this statement"
24 is a reference to work by Associate Professor
25 Barnett?---M'mm-hmm.

26 "This statement has been used by the media and has been the
27 de facto conclusion akin to 10 per cent more deaths due to
28 fire and 9.6 deaths caused by fire, so needs to be
29 challenged more directly"?---Yes.

30 You can see that there?---Yes.

31 There is two more examples I'd like to take you to. If you

1 could go to 0077, please?---Yes.

2 That is a document that begins, "Hello Dr Flander", but I can't

3 see a date to that document. Have you got that there,

4 0077?---Yes, I do.

5 In paragraph 3 of that document is found words to the effect

6 that the department wonders if the issue of small data sets

7 could be discussed in more detail. "We wonder if more

8 emphasis could be given to the fact that all-cause

9 mortality should not be considered a good indicator of

10 exposure to smoke or particular matter compared to

11 cardiovascular and respiratory mortality." You can see

12 that there?---Yes.

13 And you agree that feedback was provided to Dr Flander?---That's

14 correct.

15 There is just one remaining one. If I can take you to

16 0083?---I'm there.

17 And paragraph 1 of that document. That is a document entitled,

18 "Comments on age standardised mortality and cause of death

19 in the Latrobe Valley", et cetera, it goes on. Under

20 General Issues, (1) - you can see that there?---Yes.

21 The question there is, "Could a context or background section be

22 included, the following content may be helpful", and then

23 there is a paragraph containing various information, which

24 I suggest to you goes to the unusually hot weather that was

25 surrounding the time of January/February 2014; is that

26 right?---Yes.

27 You used the word "project management" several times in your

28 evidence and I'm going to suggest to you that the

29 Department of Health took an adversarial approach in

30 obtaining the Flander reports, and particularly the

31 critique of Associate Professor Barnett's work. Do you

1 agree with that suggestion?---No, I don't.

2 Notwithstanding the documents that I have taken you to, which

3 "need to challenge more directly" was one of those

4 references?---No, I don't think we took an adversarial

5 approach.

6 I don't have further questions. Thank you.

7 MR ROZEN: There's just one matter that arises from the

8 questions of Professor Catford, if I could be permitted.

9 <RE-EXAMINED BY MR ROZEN:

10 This is in the context of the communication with Births, Deaths

11 and Marriages and the provision of data. Is it the case

12 that the data that the Health Department obtained from the

13 Registry of Births, Deaths and Marriages, the department

14 doesn't have to pay for that data; is that right?---I don't

15 think we do. I don't think we have to pay for it.

16 Whereas a member of the public, such as Voices of the Valley,

17 they do have to pay for data, don't they?---That was

18 personally a surprise to me too. You'd have to ask Births,

19 Deaths and Marriages about that, I'm sorry.

20 The reason I ask you is that if the department had provided the

21 data, rather than Voices of the Valley having to go to the

22 Registry of Births, Deaths and Marriages, then they would

23 not have had to pay for it, do you agree with that?---I'm

24 not sure. You'd have to ask Births, Deaths and Marriages

25 whether there are exceptions to being paid for. I wouldn't

26 know.

27 Thank you. That is the conclusion of my questions.

28 PROFESSOR CATFORD: Can I just ask I thought the department

29 passed data to Dr Lester. Was that free of charge or was

30 that charged?---Yes, that is my understanding, that was

31 provided free.

1 So in some ways you have answered your question, haven't you,
2 that you could have provided the data to Voices of the
3 Valley at no charge?---I misunderstood the question. I
4 thought the question was whether Births, Deaths and
5 Marriages could have provided it free of charge. I thought
6 the question to me - I'm just clarifying - was did Births,
7 Deaths and Marriages ask us to pass on data so it would be
8 free. I didn't read the request that way. I thought the
9 question that you asked me was about engagement, I think it
10 was simply would we pass on data we had. I think under
11 those circumstances we said they should probably go to the
12 source and you must understand this is in a context where
13 people, and it sort of plays out a little bit, are not
14 trusting that the data that we provide is as is, so for
15 simplicity, go to the source to provide that, I think, but
16 I don't know the answer about whether it costs or not costs
17 and what circumstances are applied there, I couldn't answer
18 that.

19 I mean, the situation here is the community is desperate for
20 information, they have very few resources, they're trying
21 to get some clearance. The Department of Health, it would
22 seem, is not engaging with them and, you know, they're
23 finding it difficult to get hold of data from Births,
24 Deaths and Marriages and eventually having to use their own
25 funds to provide that. Would you agree it comes back to
26 this whole thing about building trust and community
27 engagement. Do you think that is the right way to treat a
28 community like this?---Do I think it is the right way about
29 not passing on information from Births, Deaths and
30 Marriages?

31 I'm talking about this whole question of engagement. We have

1 got a community who is clearly distressed about the
2 concerns about excess deaths, to the point they're actually
3 counting up deaths from newspapers because they can't get
4 any understanding here and, you know, it doesn't seem to me
5 the Department of Health is particularly helping them in
6 that process, where they might have engaged, and certainly
7 provided the data that they had from Births, Deaths and
8 Marriages?---Perhaps I can answer it this way: at the
9 earliest outset that we had the data available to us at the
10 time, that information was put on the website as much as
11 possible - that may be contested, but it was put on the
12 website, and I think we have supplied that in attachments
13 about public statements we have made about the data
14 available, to help people understand and to really express
15 for us how open we want to be, just as we are in this
16 process with the Inquiry, to give as much information as
17 possible. So your point is valid, I agree with your point,
18 that we need to do more.

19 Are you satisfied with this story to date about the information
20 that you had available, the engagement process with the
21 community, trying to, you know, build some trust from a
22 situation which was not good just a few weeks before, when
23 our report came out?---We're not satisfied, no, we're not
24 satisfied, and that is because at the point in time we may
25 make decisions, but there is always room for us to improve,
26 there is always room for us to do better and learn from
27 that and we're open to that.

28 Thank you.

29 MR ATTIWILL: I don't have any questions but I do wish to say
30 this, and I will have a discussion with Mr Rosen after the
31 hearing.

1 CHAIRMAN: About the loose ends.

2 MR ATTIWILL: I have already indicated to Mr Rosen we will look
3 at the community consultation and letters and meetings in
4 particular, and we will also look carefully at this BDM
5 data issue and endeavour to provide a response at the
6 earliest responsibility, hopefully tomorrow.

7 CHAIRMAN: Thank you, that is appreciated.

8 THE WITNESS: Thank you.

9 <(THE WITNESS WITHDREW)

10 MS SHANN: I call Professor Michael Abramson.

11 <MICHAEL JOHN ABRAMSON, sworn and examined:

12 MS SHANN: Thank you, professor. Could you just repeat your
13 full name again for the board, please?---Michael John
14 Abramson.

15 And your professional address?---So I'm a professor at Monash
16 University, I'm based at the Alfred Centre, 99 Commercial
17 Road, Melbourne.

18 And could you outline for the board your professional
19 qualifications and experience by way of overview?---I'm a
20 medical graduate from Monash University having graduated
21 with a Bachelor of Medicine, Bachelor of Surgery and
22 Bachelor of Science with honours in 1979. I hold a doctor
23 of philosophy from the University of Newcastle awarded in
24 1990. I'm a fellow of the Royal Australasian College of
25 Physicians and Australasian Faculty of Public Medicine.

26 And in terms of your connection with Monash University
27 currently?---I'm a professor of clinical epidemiology, I
28 was first appointed as a senior lecturer at Monash
29 University in 1989.

30 You have made a statement in relation to this Inquiry and that
31 statement is in the folder in front of you behind tab 7 and

1 it's also at WIT.0003.001.0001, so it should be on the
2 screen at the moment; is that your statement?---Yes, it is.
3 And have you read over that recently?---Yes.
4 Are the contents of it true and correct?---They are.
5 Anything you wish to change?---Not at this stage.
6 I tender that.

7 #EXHIBIT 6 - Statement of Professor Abramson.

8 Professor, I'm going to ask you questions under a few topic
9 headings. The first topic is in relation to the Hazelwood
10 mine fire health study also known as the long-term health
11 study and really what that is, and then coming to how it
12 might connect with solving the question did the fire
13 contribute to an increase in deaths. So firstly, could you
14 just explain what your connection to that study is?---So
15 I'm the principal investigator of that study which was
16 awarded as a tender by the then Department of Health to
17 Monash University.

18 And what is the study?---The Hazelwood health study is a complex
19 program of research potentially extending over ten or more
20 years and it basically attempts to answer the question as
21 to whether exposure to the smoke from the Hazelwood mine
22 fire has had health effects on the exposed community.

23 And health effects include whether or not people die?---That is
24 one effect, but we were asked particularly to focus on
25 long-term effects such as effects on heart and lung
26 disease, effects on mental health, the effect on the health
27 and development of children and also whether there was any
28 increased risk of cancer.

29 So just coming back then, Monash was awarded the contract in
30 October 2014, is that right?---Yes.

31 And in terms of the funding arrangements, can you just describe

1 how that works?---I understand it's a fairly typical state
2 Government contract. I perhaps should also explain that
3 the vast bulk of my research has been funded by extensive
4 grants such as those from the Medical Research Council so I
5 have been on a learning process about this but the contract
6 has associated with the timeline and milestones and
7 deliverables, and there are payments that are made on
8 satisfaction of those deliverables.

9 And it's funded through the Department of Health and Human
10 Services?---As it's now called, yes.

11 It's conducted by a team including yourself and the research
12 group?---Yes, we're an independent research group and we're
13 doing this in collaboration with the School of Rural Health
14 of Monash University which is based own here in the Latrobe
15 Valley and a number of other academic collaborators.

16 You spoke about the study really being about what might be the
17 long-term health effects from the Hazelwood mine fire, what
18 are the potential health effects that the study is starting
19 to look at and was really designed around?---So we will
20 shortly launch an adult survey and this is a survey of the
21 adult population of Morwell and a comparison population
22 which we have chosen to be in Sale and that will allow us
23 to answer the question as to whether symptoms and the
24 effects on mental health are more common amongst those who
25 are exposed compared to those who are not exposed. We also
26 have a school study already underway having been
27 successfully piloted in other schools and that will address
28 the question as to whether the smoke and exposure and
29 disruption that was associated with the fire has an effect
30 on children's ultimately educational end points. We
31 commenced a policy review looking at older people and

1 trying to inform future responses should another situation
2 of this type arise. We have a subcontract with the
3 Federation University of Australia which of course has a
4 campus here in Latrobe Valley, and they are undertaking a
5 study of community resilience and they commenced some focus
6 groups with what are called key informants. We have a
7 subcontract with the University of Tasmania who are leading
8 what's now called the early life follow up, or ELF study,
9 and they are hoping to shortly start recruiting mothers and
10 babies particularly of those children who were either in
11 the womb at the time of the fire or up to 2 years of age,
12 and they will undergo a series of assessments to see if
13 there is any difference in their health and development
14 compared to children who were not so exposed. I think they
15 are the major components of this very large program of
16 research that is currently underway.

17 You referred to them as substreams?---Our nomenclature has
18 changed a little as the program has developed. Certainly
19 we refer to them as streams, some of them now have simpler
20 names, so for example, the child health and development
21 stream has become the early life follow up or ELF study.

22 In any event within the long-term health study or the study
23 there are different components?---Absolutely, it isn't just
24 a single study because we were asked a series of questions
25 and each of those needed a study in its own right.

26 And each component has a different methodology?---There are some
27 methods in common but broadly speaking things like the
28 adult survey, the school study and the early life follow up
29 are epidemiological studies and they are using quantitative
30 methods where we're collecting data and analysing data.

31 Can you explain as you go the terms you're using?---Certainly.

1 So quantitative study is basically dealing with numerical
2 data, we're surveying people, asking them questions and
3 we're going to report that in terms of proportions and do
4 statistical tests, and then some of the other streams I
5 referred to are using a more qualitative approach, using
6 focus groups, interviewing people, and that qualitative
7 data has to be analysed in a different way but the two are
8 really complimentary and answer different questions.

9 In terms of looking at the study overall, the potential health
10 effects which are sort of encompassed by, include
11 cardiovascular and respiratory disease?---Absolutely, and
12 these will be specifically addressed by substudies once we
13 have completed the adult survey.

14 So the data will encompass what the adult survey is but the
15 adult survey will cover cardiovascular and respiratory
16 disease?---It will obtain some data on those particularly
17 the sort of things of which people are aware. So we will
18 ask them about pre-existing conditions such as whether they
19 have had a heart attack or if they've had chronic lung
20 disease but the substudies will contain more objective
21 information conducted such as samples of participants.

22 The potential health effects covered by the study overall also
23 includes low birth weight, psychological impacts,
24 development of cancer?---Yes.

25 We have heard quite a bit this morning about the issue of
26 community engagement, how is the Monash study dealing with
27 that issue of engaging with the Latrobe Valley community in
28 the study?---We take it very seriously and I would
29 particularly like to acknowledge the contribution of the
30 principal co-investigator for Gippsland, Professor Judi
31 Walker from the School of Rural Health. So as an example,

1 we have a community advisory committee that she chairs in
2 which the chief health officer is represented as are a
3 number of the other health services within the Latrobe
4 Valley, and we have three community members. So they are
5 involved in consultations about the design of the study and
6 how to conduct various aspects of it. We are also required
7 to hold community briefings and in fact the last time I was
8 here in Kernot Hall was to deliver one of those briefings
9 where we invited people to attend, we had a reasonable
10 attendance and there was certainly some very lively
11 discussion and I anticipate we will be holding more of
12 those in the future. I do know that Professor Walker
13 conducted another community consultation in Sale once we
14 announced the selection of that community as the comparison
15 group. The final aspect of community engagement involves
16 actually approaching community groups. I know Professor
17 Walker and our colleague, Dr Matthew Carroll also from the
18 School of Rural Health have attended a number of meetings
19 of Probus Club and senior citizens and various other groups
20 within the Latrobe Valley and that is something that will
21 continue as the study develops.

22 In terms of the aims of the study, in your statement at
23 paragraph 7 you set out four questions which the study aims
24 to answer over its duration?---M'mm.

25 Can you just detail what those questions are for the board?---Do
26 you wish me to read them or explain them in greater detail?

27 Either way, whatever you're comfortable with but you have them
28 down on the page if you need them?---Okay. So the first of
29 those questions is about the development of heart and lung
30 conditions in those who are heavily exposed, i.e. the
31 community at Morwell, and those who are much less exposed,

1 i.e. the community of Sale. So we will obtain some
2 information about that from the adult survey. For example,
3 we have questions specifically about respiratory symptoms
4 but it will also be necessary to link with routinely
5 collected data such as those collected from Victorian
6 hospitals. So you can see, for example, whether the rate
7 of hospital admissions for heart attacks is greater in
8 Morwell than it is in, say, the rest of Gippsland. We very
9 recently obtained approval from Victorian Ambulance to
10 access data from the Victorian Ambulance cardio arrest
11 inventory and also the Victorian Ambulance clinical
12 information system. So we will be able to use that to see
13 if there is a difference in call-outs for breathlessness or
14 chest pain in Morwell and Latrobe Valley compared with the
15 rest of Gippsland. So that's really how we're going about
16 answering that first question.

17 I might just stop you there, you have referred a few times to
18 the adult survey, can you just explain what is the adult
19 survey and how it's set up?---The adult survey is basically
20 a survey of the adult population in Morwell people who were
21 18 years or older at the time of the fire, and a comparison
22 community in Sale. Our proposal is to recruit a sample
23 utilising the Victorian electoral roll and I have applied
24 to the Electoral Commission for access to the roll.
25 Assuming we are, and we haven't yet been granted access to
26 the roll, we will then send out letters of invitation - I
27 should perhaps have said right at the outset the whole of
28 the Hazelwood program of research is under the ethical
29 oversight of the ethics committee, the human research
30 ethics committee is the participating - with all approvals
31 specifically from Monash University the human research

1 ethics committee to undertake the adult survey. So we then
2 send out a letter of invitation. We are currently in the
3 process of letting a tender to conduct what are called
4 CATI, computer assisted telephone interviews, this is a
5 very widely used method of obtaining population data, for
6 example, it's used in the Victorian population health
7 survey which is conducted for the Department of Health and
8 Human Services.

9 That's a way of reaching out to residents of Morwell?---Yes.

10 To try to engage them in the survey?---Absolutely, I mean this
11 survey cannot be done without their participation.

12 How many people are you intending to recruit as part of the
13 participation of the adult survey?---The target sample size
14 is about 7,500 which is about 70 per cent of the adult
15 population of Morwell, and about 4,000 people in Sale which
16 is a similar proportion. I would have to admit that is a
17 very ambitious target and we don't anticipate everybody
18 will agree to participate via computer assisted telephone
19 interview, so we also have options for on-line
20 participation and we will send out some postal
21 questionnaires where we only have an address and we don't
22 know the name of people who reside at that address.

23 In terms of the design of the adult survey, you referred a
24 number of times to Sale, that's the comparison
25 community?---Yes.

26 And explain how that works?---So it involves a fair bit of
27 consideration to identify a suitable comparison community.
28 The ideal comparison community would have almost exactly
29 the same population but not have been exposed to the smoke
30 from the mine fire. So we subcontracted to CSIRO in
31 relation to its atmosphere flagship and they did some

1 modelling looking at dispersion of smoke.

2 If I could perhaps stop you there and ask if the following could

3 be put up, WIT.0003.001.0006?---Thank you. I must

4 apologise it looks like we provided you with the low

5 resolution version, so there is a higher resolution

6 version. You would like me to talk to this figure?

7 Is that the figure you were mentioned in relation to

8 CSIRO?---Yes, so what you can see there is the

9 concentrations of PM 2.5, these are the fine particles less

10 than two and a half thousandth of a millimetre in diameter

11 which have been modelled by CSIRO utilising their model and

12 the technical details of that are not really in my area of

13 expertise but they are internationally recognised as

14 experts at doing this type of modelling. And you can see

15 the plume of smoke basically plume up and down the valley

16 in an easterly and a westerly direction, but the

17 concentrations were highest in Morwell which is why that's

18 the darkest colour. We realised after commissioning that

19 report that it wouldn't be possible to select another

20 community within the Latrobe Valley for the comparison, we

21 wanted the comparison community to also be a rural

22 community and the practical consideration for us was that

23 the School of Rural Health needed to have some

24 infrastructure so we could actually do the research in that

25 town. The other factor weighing on the consideration was

26 the socio-demographic make up of the community, and again I

27 would like to acknowledge the assistance of Dr Rebecca

28 Kippen who is a demographer who has been working with us on

29 this, and she obtained data from the Bureau of Statistics

30 2011 census, and in the end we decided Sale would probably

31 be the best choice. The community is not exactly the same

1 as Morwell but with some selection of a statistical area of
2 level 1 within that town and some statistical adjustments
3 we felt we could get a reasonably comparable population and
4 as the figures show there was virtually no exposure to
5 smoke from the mine fire.

6 Is the intention with the survey over time to essentially track
7 whether there are differences in adverse health effects in
8 Morwell residents as compared to Sale residents?---That is
9 certainly a big part of the analysis of the adult survey
10 and the follow up studies that I have started to describe.

11 Just again staying with the adult survey, and we will come to
12 talk about some of the other components, but the scope of
13 the adult survey is limited to residents of Morwell?---Yes,
14 at present it is, and a major reason for that is that to do
15 a valid epidemiological research we need a sampling frame,
16 and I suspect this isn't sort of generally understood in
17 the community, we faced a number of questions about that at
18 our community consultation. But with the probable
19 exception of the census in which almost everybody is
20 required to participate, almost all research studies rely
21 on a sample and we do have a sampling frame for Morwell and
22 for Sale if we can access the electoral roll, because in
23 Australia it's compulsory to register to vote and it's
24 compulsory to vote, and there are very few silent electors
25 who are not listed on that roll.

26 Thinking then about the adult survey and that particular issue,
27 taking emergency responders to the fire?---Yes.

28 And for example, fire fighters, police, would it be currently
29 unless they lived in Morwell they wouldn't be part of the
30 adult survey, is that right?---Yes, that's right.

31 Would it be possible to include them in the scope of the study

1 by having a substream which dealt with that particular
2 group?---It would be possible, I mean we're seriously
3 interested in the emergency responders and I do know that
4 some groups of them are very interested in participating
5 and in fact we have had an approach from Victoria Police
6 but currently - - -

7 Sorry, just to interrupt, what was that approach?---There is a
8 letter that I provided to you in which they expressed
9 interest in participating in the study and indeed a
10 representative of Victoria Police attended the community
11 consultation in Morwell and made exactly the same point.

12 Was that in relation to the police members who were stationed at
13 the Morwell Police Station during the fire?---Yes.

14 Have you had any contact from CFA or MFB, Melbourne Fire
15 Brigade?---No.

16 So in terms of how you would deal with obtaining a comparison
17 group for emergency responders, is that possible, and if so
18 how?---We haven't given this a great deal of thought
19 because it's beyond the scope of the present study. But my
20 immediate response would be that if it is possible for them
21 to participate, the exposed group would clearly be police
22 and fire fighters and other emergency responders deployed
23 to the fire, and a comparison group would be police and
24 other emergency responders who were not deployed to the
25 fire. And the reason that we would need that sort of study
26 design is the emergency services have quite stringent
27 screening procedures and their members would be healthier
28 than the general population. So if we were to compare,
29 say, a sample of fire fighters with the general community
30 we're likely to observe what's called the healthy worker
31 effect.

1 Similarly it might be the case that there are particular
2 features of being a fire fighter, for example, who attends
3 at fires regularly which may need to be controlled out of
4 the data, is that right?---Oh, absolutely, other fire
5 fighters would have been exposed to other fires.

6 But that is something that whilst not currently part of the
7 scope of the study, is of interest?---It's of genuine
8 interest to us as scientists because we view the emergency
9 responders in a sense as positive controls that are being
10 immediately observed. So if there are any side-effects
11 they would probably be more likely to be affected in that
12 group than the community at large.

13 So over time, over the long-term the study is run for, in terms
14 of the information that you're hoping to obtain about
15 health effects including whether or not there was an
16 increase in death, that might be helpful to actually have
17 information about emergency responders?---It would be very
18 helpful. My background is as a respiratory physician so I
19 have been particularly interested in effects on the
20 respiratory system which of course is how people were first
21 exposed to smoke, and one of the things we want to do as
22 part of a respiratory stream over the next nine years is to
23 make measurements of lung function in a sample of
24 participants. So I think it would be extremely valuable to
25 be able to compare the rate of decline amongst the
26 emergency responders with the rate of decline in the
27 exposed community as a comparison.

28 Just going back, you mentioned a number of streams or components
29 of the study and we have talked a bit about the adult
30 survey, in terms of some of the other areas they do cover a
31 broader range of at least geographical locations other than

1 Morwell residents?---Yes.

2 So for example, the school study will cover the entire Latrobe

3 Valley?---Yes, they have been recruiting schools throughout

4 the Latrobe Valley and the thinking there was the fire was

5 very disruptive to schools over quite a wide area and there

6 were some schools that were evacuated and the children had

7 to be transported by bus to other schools. So I think the

8 exposures of interest are broader than just the smoke.

9 Similarly in terms of the early life follow up study, that again

10 is Latrobe Valley in its entirety?---Yes, the main

11 comparison there is between the children who were in utero

12 or up to 2 years of age at the time of the fire and those

13 who were not exposed.

14 In terms of the start date, I understand the initial work took

15 place back in 2014?---Not really, we have been piloting

16 more recently than that because as I mentioned earlier we

17 needed to obtain ethics approval.

18 In terms of the commencement of the different research streams,

19 have some already commenced?---Yes.

20 And with the adult survey when is it expected the data will

21 start to come in?---We're hoping to start the survey later

22 this year, but there are really two things that need to be

23 achieved for that. The first is we need to be granted

24 access to the electoral roll and the second is we need to

25 award a tender to a company to undertake the CATI telephone

26 interviews.

27 And in terms of the length of the study, you have spoken about

28 ten years and beyond?---M'mm.

29 How is it actually set up in terms of length?---So we have been

30 awarded an initial three year contract and that will be

31 long enough to complete the adult survey and commence some

1 of the substudies. It will be long enough for the first
2 round of testing in the school study. Perhaps I should
3 have said earlier, because we're interested in educational
4 end points, the school study is very much coordinated with
5 NAPLAN testing. So selecting children in years 3, 5, 7 and
6 9, so the logical follow up period in that study is two
7 years, that will then extend over the next nine years. So
8 that's the plan for the first ten years of the program.

9 Coming to the specific questions that the board has to answer in
10 relation to this term of reference which is in essence did
11 the fire contribute to an increase in deaths, in the
12 long-term is that a question that the study hopes to be
13 able to answer?---We do hope that we will shed some light
14 on that and what we plan to do ultimately is to link the
15 responses in the adult survey to the national death index
16 and we can then see if there is a difference in the rates
17 of specific causes of death between participants in Morwell
18 and participants in Sale.

19 Can you explain what the national death index is?---The national
20 death index is a compilation of the death registrations in
21 the states and territories, it is maintained by the
22 Australian Institute of Health and Welfare in Canberra.

23 So that would include, for example, from Victoria the
24 information from Births, Deaths and Marriages?---Yes,
25 absolutely.

26 So going back then, in terms of the way in which long-term the
27 study may hope to answer that question, can you just detail
28 a little bit more about what the current learning is on
29 that and how the study hopes to answer it?---Well, the
30 analyses that have been conducted up until now have been
31 essentially ecological. They have compared people between

1 different areas and we would hope to undertake an
2 individual analysis, and the advantage of that is that it
3 allows us to adjust for individual confounders. So one
4 which was incredibly important for the sort of health end
5 points we have been discussing is cigarette smoking.
6 When you use the term confounder, what are you describing
7 there?---So a confounding variable is one which is
8 associated with the exposure of interest but can also cause
9 the outcome in its own right.
10 And by that do you mean to say if we're looking at
11 cardiovascular disease that smoking can cause
12 cardiovascular disease so you need to look at a way to
13 determine whether or not smoking is a contributor in a
14 particular case?---Absolutely, cigarette smoke is a very
15 well-established as a cause of cardiovascular disease so if
16 we can't adjust to the effects of cigarette smoking it will
17 be very difficult to determine if there is any extra
18 exposure to the smoke from a mine fire.
19 Looking at the studies which have been done to date that you're
20 aware of, and I will come a little bit later to the
21 research you have done trying to draw together that
22 literature, but in terms of published studies is it correct
23 there is a number which have shown an association between a
24 particular matter and deaths?---Absolutely, most of those
25 have looked at urban background pollution, the sort of
26 particles you find in major cities which are predominantly
27 from things like vehicle exhausts and road dust industry.
28 And I suppose that leads on to the issue have you been able to
29 find an event comparable to the Hazelwood mine fire to the
30 national or international studies?---To the best of our
31 knowledge there has never been a directly comparable event,

1 that is a fire in an open-cut brown coal mine immediately
2 adjacent to a major town. We have identified a fire in
3 Pennsylvania which erupted in an underground black coal
4 mine in 962 and apparently has burned ever since. At the
5 time we did that updated literature review we could not
6 identify any published study in the period of the
7 scientific literature, we have subsequently become aware of
8 two unpublished reports but they don't specifically address
9 the question of mortality.

10 In your statement at paragraph 19 you refer to having requested
11 copies of that research but not yet received it?---Yes.

12 Did you receive it in fact in the last few days since the
13 statement had been completed?---Yes, we have received the
14 reports.

15 And does it assist in terms of answering the question about
16 health effects or increases in mortality as a result of a
17 fire comparable to the Hazelwood mine fire?---Well, I'm
18 honestly not sure to what extent the Centralia fire is
19 comparable to the Hazelwood fire. I don't think these
20 reports provide any assistance at all in relation to deaths
21 because they didn't investigate that. They do provide some
22 information about morbidity or symptoms or diagnoses and we
23 really need to evaluate them in greater detail. I'm
24 hopeful they may provide some insights that will be helpful
25 in interpreting our adult survey, for example.

26 In terms of the Monash study which has been set up, you refer at
27 paragraph 18 of your statement to it being the first of its
28 kind, can you explain what's meant by that?---Well, simply
29 that we're not aware of any other group of scientific
30 researchers having done a similar study of this sort of
31 exposure. I mean, there are other studies looking at

1 environmental health events and one example that does come
2 to mind is the Fukushima study in Japan. I'm sure most
3 people would be aware there was a tsunami and the safety
4 equipment and the back up provisions at the nuclear power
5 plant failed and there was a release of radiation and the
6 Japanese authorities had to evacuate quite a large area,
7 and I am aware there is a health study underway of the
8 people who had to be evacuated but unfortunately I have not
9 yet been able to establish contact with those researchers.

10 Looking at the timeframe on the long-term health study being
11 able to contribute to the answer to the question the board
12 is faced with, when do you hope to be able to have some
13 data which can help to answer that question?---I'm sorry,
14 we're not going to have answers in the timeframe the board
15 has to consider this issue. We do have to provide annual
16 reports for the health department and as I said earlier we
17 also are required to do annual community briefings. I'm
18 hopeful by the time of our second annual report we will
19 have some data, some information from the adult survey and
20 from the school study and clearly by the end of the first
21 three years we will be in a position to say more. At this
22 time I'm not entirely certain when the mortality analysis
23 would be undertaken. We would certainly need to complete
24 the adult survey but the other thing we would need is we
25 would need better exposure data. So I have shown you a
26 figure from CSIRO, they are undertaking further modelling
27 and one of the reasons for the adult survey is we're asking
28 people where they were during the fire and we can then
29 match up the model concentration of PM 2.5 with their
30 location and that will give us individual exposure
31 estimates. So they are not currently available, it would

1 be wonderful to think we can do that analysis at some point
2 during the next year but I'm not yet entirely sure.
3 So certainly the board has to provide a report in relation to
4 this term of reference by 2 December this year, and it
5 sounds clear enough that the results that you're talking
6 about are well down the track after that?---Yes, I'm afraid
7 so.

8 In terms of really what the scope of the study and the adult
9 survey does and doesn't include, what about things which
10 have happened during the fire, deaths that may have
11 happened during the fire and up until the time that the
12 adult survey starts to collect data, will that be within
13 the scope of what you're collecting?---So clearly the
14 people who have died during that timeframe won't be
15 participating in the adult survey. It would be possible to
16 look at some of the collected data such as you have already
17 been hearing about in relation to death registrations but
18 we face the same problem that I described earlier and that
19 is we wouldn't be able to control for individual level
20 confounding factors like cigarette smoking.

21 Turning then to some previous work that you have undertaken - - -

22 PROFESSOR CATFORD: If you're moving onto the other study I
23 wonder if I might interrupt.

24 Mr Abramson, thank you very much, that was very helpful, I do
25 have a couple of questions. So were you looking at the
26 2009 to 2013 mortality data?---At this stage we don't have
27 a definite proposal to do that. We do have this substudy
28 which I call Hazel Link so it's about linked data, analysis
29 of linked data for the purpose of the Hazelwood health
30 study, and that includes things like the ambulance data I
31 mentioned earlier, and of course as you would be aware many

1 people in the community are not - the vast majority of
2 people who suffer a cardiac arrest in the community can't
3 be resuscitated and die at the scene. So those are sudden
4 cardiac deaths and that is something we will examine,
5 exactly how far that data set goes I'm not entirely sure.
6 I think your own study's probably not going to be able to help
7 us very much in our immediate future about answering this
8 question about whether there is excess deaths in 2014
9 associated with the fire as opposed to (indistinct)?---I'm
10 afraid not.

11 Just looking to our other terms of reference in terms of the
12 future health service and health improvement in the valley,
13 is it really three years from now that you might have some
14 more information about the health impact that might be
15 useful for health planning purposes, would that be fair or
16 do you think you might have it sooner than that?---I think
17 it's the minimum we would need to conclude the adult
18 survey. As an example I expect we may find quite high
19 rates of cigarette smoking, that's already been suggested
20 in the Victorian population health survey and there are a
21 number of interventions that could be targeted to the
22 community to assist with that.

23 I think it's true we already have quite a lot of information
24 about the health status of the population here?---Yes.

25 Can I ask a broader question about scientific integrity and
26 conflict of interest?---M'mm.

27 This study you're leading is going to be a very expensive study
28 potentially lasting many years and it's going to be really
29 important everyone has absolute confidence in the
30 researchers and you as their chief investigator. How do
31 you prevent vested interests influencing your

1 findings?---We of course see ourselves as independent and
2 we have been very careful to protect that. I'm aware of
3 this from my previous research, some of which has been
4 conducted with the pharmaceutical industry and in that
5 situation one always has to be very careful to maintain
6 scientific independence and I have in fact had a major
7 dispute with a very large multi-national corporation which
8 in my opinion sought to suppress the findings of our
9 research because it didn't suit their commercial interests,
10 and in the end we were able to publish that work. So one
11 of the things we negotiated in our contract with the then
12 health department was that although the intellectual
13 property was owned by the department we would obtain the
14 right to publish clearly and we do need to publish to show
15 the community as part of the process of community
16 engagement but ultimately it will be our decision to
17 publish the findings.

18 So would you expect interested parties to pour over your data
19 and conclusions and make suggestions on how you might
20 phrase particular sentences in your reports?---That depends
21 a bit on what you mean by interested parties. We do have a
22 scientific advisory committee, I mentioned the community
23 advisory committee earlier and that includes some quite
24 eminent people like my head of school, Professor John
25 McNeil, Professor Rod Schoffel, the deputy dean of research
26 at Monash, Associate Professor Roberts who is a national
27 expert in perinatal epidemiology so she is advising us on
28 how to interpret certain findings. Professor Brian
29 Priestly, a now semi-retired toxicologist. So we would
30 certainly accept comments from our scientific advisory
31 committee. Other comments I suppose would be considered

1 but as I said earlier, we're an independent group of
2 researchers and as a researcher I wouldn't want to be seen
3 as only printing and publishing findings that might suit
4 the sponsor of research or others.

5 So that's the guarantee you give the community, you are acting
6 independently and in their best interests?---Absolutely,
7 because ultimately the study is about a community health
8 and there is work to be done, to report back to them and
9 the hope is we will identify things that can be improved in
10 the future.

11 Thank you very much.

12 MS SHANN: Thank you, professor. I'm just going to take you
13 back now to earlier pieces of work that you along with
14 colleagues were involved with. The first one is the rapid
15 health risk assessment and for the board's assistance, this
16 appears annexed to Dr Lester's statement, which is at tab
17 6, WIT.0001.001.0005. Professor, you'll, if you're behind
18 tab 6, see at the top right-hand corner of the page there
19 is a number, a very long detailed number printed, and we're
20 looking for - 0005 is the last four digits. Have you got
21 that there?---Yes, I have located that.

22 This is a copy of a document final report rapid health risk
23 assessment prepared for the Department of Health, 12 March
24 2014 and you're listed as one of many authors?---Yes. I
25 was the lead author on this report.

26 Can you just explain to the board what you were actually asked
27 to do?---My head of school, Professor John McNeil, who is
28 listed as the last author, was approached by Dr Lester,
29 when she was the chief health officer, to provide the
30 Department of Health with some advice, based on existing
31 evidence in the scientific literature, about the health

1 effects of fires such as the one that had occurred in the
2 Hazelwood Coal Mine fire and there were a series of
3 questions that the department had asked us in the brief,
4 including what effects might be expected should the fire
5 burn for six weeks or three months or six months or
6 12 months, because at that time nobody knew how long it
7 would take to put the fire out.

8 So this assessment was completed whilst the fire was still
9 burning?---I think so. I can't recall the exact date we
10 submitted it. I think that would be somewhere on the
11 report.

12 But in any event, it is dated 12 March on the first page, is
13 that - - -?---The fire commenced, I think, on 9 February,
14 so we must have - it is an interesting situation when you
15 do these reports for government. They always take longer
16 to actually finalise than the government would like, but
17 that is the nature of the beast.

18 In terms of the methodology that you used to come to any
19 assessment, can you detail that for the board?---We
20 reviewed the existing scientific literature, particularly
21 on the health effects of fine particles, PM 2.5, and also
22 carbon monoxide, which we understood to be the two major
23 air pollutants arising from the fire. We were provided in
24 confidence with some data from the Environment Protection
25 Authority, who had started to measure ground level
26 concentrations of quite a wide range of air pollutants in
27 Morwell and elsewhere in the Latrobe Valley and we provided
28 some comment on how those levels related to national
29 environment protection measures and because there were no
30 health data available at that time, we undertook some
31 modelling and although I'm the lead author of the report, I

1 particularly need to acknowledge the contribution of my
2 colleague; Associate Professor Manoj Gambhir was the one
3 who undertook the modelling.

4 Just breaking that down a little bit, you've got some data from
5 EPA, the Environment Protection Authority, and we'll come
6 to what that was and wasn't. You're then looking at what
7 the scientific literature nationally and internationally
8 says about levels of PM 2.5?---M'mm-hmm.

9 And also carbon monoxide?---Yes.

10 And comparing that to the EPA data that you had to then form an
11 assessment as to the various questions that you're
12 asked?---Yes.

13 And one of those questions was in relation to, over a six-week
14 period, would we expect to see an increase in deaths?---We
15 were asked generally what health effects would be expected
16 if the fire burnt for a certain duration.

17 So one of the health effects that you then considered was
18 whether there would be deaths?---Indeed.

19 Or whether you might expect to see deaths?---Yes.

20 What, on page 5 of the report, is said, just in a paragraph
21 which is in the middle of the page, starting with, "Based
22 on these findings" - I'll just take you to this and then
23 we'll unpick whether there were limitations and what the
24 situation was there, but is in essence what was found as
25 part of this assessment that for combined PM 2.5 exposures,
26 around 250 micrograms in Morwell South, and for exposures
27 around the national environment protection measure in the
28 rest of Morwell, no additional deaths would be expected,
29 even if the exposure continues for six weeks. So that was
30 a part of the assessment or the findings from that rapid
31 health risk assessment?---Yes, that is a global summary of

1 the main finding of the modelling.

2 I just wanted to then understand that a bit more. In terms of

3 the modelling that you've referred to, what was it that you

4 were actually drawing from that scientific literature

5 overseas?---The literature review was conducted separately

6 because that was something that we're able to do fairly

7 quickly, given the existence of some environmental health

8 criteria documents that the World Health Organisation had

9 assembled, and we also conducted searches of bibliographic

10 databases, such as MEDLINE, and very specifically we

11 presented some of the findings of ESCAPE, which is the

12 European Study of Cohorts for Air Pollution Health Effects,

13 and although I'm not personally an investigator in ESCAPE,

14 I know many of the investigators and we were able to obtain

15 papers that were either in press or, in some cases, had

16 only been submitted. So we had access to the latest

17 scientific data on the health effects of air pollution.

18 You mentioned in your evidence earlier an issue with the

19 long-term health study being trying to find a comparable

20 event. Was that also a limitation in terms of this

21 literature review?---Very much so. It was immediately

22 apparent that there hadn't really been a comparable fire in

23 a brown coal mine before of which a health effects study

24 had been conducted and published in the peer-reviewed

25 literature and as I described earlier, it took us another

26 year in fact to even find the unpublished reports on the

27 Centralia fire.

28 So what types of fires or sources of pollutants were you looking

29 at when you were undertaking this assessment?---In the

30 initial rapid health risk assessment it was primarily

31 studies of background urban air pollution, the sort of

1 particles that are seen in large cities due to motor
2 vehicles and industry and road dust and so on.
3 So quite different from the Hazelwood Mine Fire, or potentially
4 so?---Yes.

5 In terms of the data itself that you were provided from the EPA,
6 were there any limitations in that data?---It's not really
7 for me to comment on the quality of the measurements. I
8 believe that members of the EPA were invited before the
9 Inquiry last time to talk about that. But the main thing
10 that struck us, as epidemiologists, was that it took the
11 EPA a few days to be able to set up their equipment in
12 Morwell, so we actually didn't have any data for the first
13 few days and that is in fact still a problem. That is why
14 we have engaged CSIRO to do modelling.

15 What impact would that have had on the modelling that you used
16 for this assessment?---I think it's quite likely that the
17 exposure to smoke would have been higher in the first few
18 days after the fire broke out because it was burning over a
19 wider front. It would also be a function of the wind
20 direction at the time, which I'm not personally familiar
21 with. So I suspect it is possible that the modelling we
22 conducted may have been an underestimate of the true
23 effect.

24 In terms of the issue of measurements that you were provided,
25 was it just limited to PM 2.5 or did you have access to
26 measurements for other pollutants which have now been found
27 by the first Inquiry to have been present?---I'm struggling
28 to remember exactly what we were provided with and at what
29 point in time. We certainly had data on PM 2.5 and carbon
30 monoxide. The EPA have given us data on the other criteria
31 pollutants. I think we had access to data on sulphur

1 dioxide at that time and the sulphur dioxide levels in fact
2 were quite low, and this is one of the big differences
3 between a fire in a brown coal mine and the sort of black
4 coal that is burned in North America and Europe, which has
5 a much higher sulphur content. We have seen data on
6 nitrogen dioxide and ozone and, again, my recollection is
7 the levels were quite low. So we thought it was unlikely
8 that there would have been health effects from these
9 pollutants.

10 When you came to consider what the effects might be, were you
11 looking at the literature - was the literature that you
12 considered just dealing with PM 2.5 or was it dealing with
13 a combination of pollutants?--For this first report, we
14 also looked in some detail at the literature on carbon
15 monoxide. You're asking about the combined effects of air
16 pollution and that's really a very active area of research.
17 There certainly have been studies looking at the
18 combination of particles, more usually PM 10 - these are
19 slightly larger particles, less than 10 thousandths of a
20 millimetre in diameter - and sulphur dioxide and the
21 effects of that combination appear to be greater than the
22 effects of PM 10 alone. There have also been quite a
23 number of studies looking at photochemical smog, such as we
24 do have in Melbourne, but classically it was first really
25 described in Los Angeles and those parts of California,
26 where there are combined effects from both nitrogen dioxide
27 and ozone, as well as particles. So we know that those
28 sort of mixtures have greater effects than any of the
29 individual pollutants themselves. Specifically about the
30 combination that we faced here of carbon monoxide and fine
31 particles, I'm not sure whether that's been studied in any

1 detail.

2 I take you to, on that page, the final paragraph and just the
3 first sentence there, "The review has found that other
4 relevant air toxics, apart from PM 2.5 and carbon monoxide,
5 should be measured." So does that assist with whether or
6 not you had data about other pollutants at the time that
7 you were completing this assessment?---Look, we certainly
8 didn't have data on air toxics at that time. We have been
9 provided with some of that data since then. I know, for
10 example, the community has been very concerned about the
11 possibility of mercury exposure, but our advice was that
12 the mercury content of the brown coal was actually very
13 low, so we felt that that was unlikely to be a major issue.

14 In terms of the particular modelling that was utilised, are
15 there any inherent limitations that you can see in that
16 particular approach to this problem?---Yes. Any model, of
17 course, is only as good as the data that goes into it. The
18 model that we used was the best available and, in fact, I
19 do need to acknowledge a collaboration. One of the authors
20 of this report is Dr Fay Johnston from the University of
21 Tasmania and she has a very active research collaboration
22 with a group at the University of British Columbia and it
23 was through that collaboration that we were able to get
24 access to this integrated model of the health effects of
25 fine particles, actually before it had been published. It
26 has subsequently been published in environmental health
27 perspectives, so it is now more widely available.

28 Can you just explain what do you mean by "integrated
29 model"?---This is a model really looking at the long-term
30 health effects. So generally speaking, we would divide the
31 health effects into those that occur in short time periods

1 and those that occur over longer time periods. So if we're
2 thinking of a pollutant like carbon monoxide, which causes
3 asphyxiation, the effects can be quite immediate, whereas
4 if the health effect of concern is cancer, that necessarily
5 takes many years to develop.

6 The approach taken here was long-term?---Yes.

7 And cumulative exposure?---That's right.

8 The fire burned for 45 days before it was declared that it was
9 under control. Does that fit within the definition of
10 long-term?---It's sort of in between. Short-term health
11 effects would be observed within days and most of the
12 research has typically looked at effects occurring two,
13 three, maybe five, days after exposure. The studies of
14 cancer and its relationship to air pollution have typically
15 extended over years. So 45 days is somewhere in between
16 short and long, I'm afraid, so again we're a little bit at
17 the mercy of what data were available.

18 Again, would you accept that as being a limitation of the
19 analysis that was undertaken?---Yes. Nobody had
20 specifically developed a model for exposures of these
21 durations.

22 Similarly, as I understand it, what you were looking at was the
23 population; is that right?---The general population, yes.

24 So what we don't know is was there a particular person who was,
25 for example, more exposed than someone else?---In essence,
26 the model averages the exposure across the entire
27 population. We did know from the data with which we were
28 provided that people in the southern part of Morwell were
29 much more heavily exposed than people in the eastern part
30 of Morwell, but we had to use the global mean
31 concentrations in this modelling.

1 Again, it was location focused?---Well, we did the analysis for
2 the entire population of Morwell.

3 It wasn't, for example, looking at a particular group, such as
4 firefighters, who might have had more proximate contact to
5 those pollutants?---No. There is typically a different
6 literature related to occupational exposures and we weren't
7 specifically asked to examine that.

8 In fact, on page 4, about a third of the way down, in the
9 paragraph starting, "The main health outcomes", you note,
10 "Health risks to mine workers, firefighters and other
11 emergency workers were not specifically asked to be
12 included in this review"?---That is correct.

13 Did the modelling take account of any particularly vulnerable
14 groups who might be expected to feel the effects more
15 readily?---No, it didn't. It is generally accepted that
16 young children and elderly people are at greater risk, but
17 the way this modelling is done, it applies it to the
18 population at large, and that will include a certain
19 proportion of young children and a certain proportion of
20 older people. It is coming up with an estimate for the
21 entire population.

22 Did the modelling take account of whether or not there were any
23 particular vulnerabilities within the Morwell population,
24 for example in terms of respiratory issues, diabetes, that
25 were perhaps disproportionate vulnerabilities compared to
26 the Victorian population at large?---No, it didn't allow
27 for those factors. I'm personally not aware of such a
28 source of data. I understand the Victorian population
29 health survey does have data down to a local government
30 area. I'm not sure whether it extends to individual towns,
31 though.

1 Is it fair to say that in terms of this assessment and the
2 statement that I read to you before, "No additional deaths
3 would be expected, even if the exposure continues for six
4 weeks", is it fair to say that is not a conclusion that we
5 can now use to say there were no deaths?---I think that is
6 a fair comment. It was the best estimate that we could
7 make at the time, based on the data that were available to
8 us and the model that we used.

9 If I can just take you now to - I think you've actually referred
10 to it - the updated literature review, and this is attached
11 to your statement, so will be behind tab 7 and it is
12 WIT.0003.001.0007. This is a document again prepared for
13 the Department of Health and Human Services, titled Updated
14 literature review on mortality and morbidity associated
15 with environmental smoke events. Again, you're one of a
16 number of co-authors?---I just need to acknowledge the
17 contributions of my colleagues, Dr Diogenes, Ferreira and
18 Dr Martina Dennekamp, to this review.

19 When it says "updated", is that that part of that rapid health
20 risk assessment that we were just talking about contained a
21 literature review?---It did.

22 So this document is, in essence, an updated and expanded
23 literature review, taken in part from that earlier
24 document?---That's right, and we'd focused particularly on
25 environmental smoke events, a biomass, fires, bushfires,
26 wildfires. Dr Ferreira even found some fires in cane
27 fields that had been studied in his country, in Brazil.

28 Just turning to page 3 of that report, which is .0010, there is
29 set out an executive summary. Was the question that you
30 were being asked by the department in this instance whether
31 increased mortality could be attributed to an environmental

1 smoke event in the absence of any observed increase in
2 morbidity?---That was the question that they wanted
3 answered that time.

4 Could you just outline what "morbidity" means?---I think
5 mortality is pretty clear. That relates to deaths.
6 Morbidity is about illness and disease, so it includes
7 things such as hospital admissions, emergency
8 presentations, consultations with a physician, ambulance
9 call-outs, and it goes further. There is a health effects
10 triangle - pyramid in the report that might assist with
11 this.

12 Perhaps if we could bring that up. It's at page 5,
13 0012?---This is the well-known pyramid of health effects.
14 So up the pointy end we have deaths, but those are,
15 fortunately, relatively rare events, and then as we go down
16 the pyramid, the effects become much more numerous and I
17 went as far, I think, as emergency visits, so medication
18 use, which can be tracked through things like the
19 Pharmaceutical Benefits Scheme. Symptoms, really the only
20 way of getting data on symptoms is to do a special survey.
21 Impaired lung function requires measurements of lung
22 function. And then right at the bottom of the pyramid we
23 have these very subtle subclinical effects, like changes in
24 certain proteins in the blood, such as C-reactive protein.

25 Is what the pyramid demonstrating, in effect, that you would
26 expect to see more subclinical subtle effects than you
27 would premature mortality and it essentially increases up
28 that scale?---Absolutely.

29 So, for example, you would expect to see a higher number of
30 emergency room visits than you would to see
31 deaths?---That's correct.

1 Were you actually asked, as part of this review, to analyse how
2 many emergency visits there were in the Latrobe Valley
3 during the fire or around that time?---No, we were not.

4 Were you asked, as part of this review, to analyse death
5 statistics, how many instances of death there were during
6 or around the time of the fire?---No. In the end, we were
7 only asked to update the literature review.

8 Just then going to the literature review, again, did you have
9 the constraint of not having studies about a directly
10 comparable event?---That's correct, and Dr Ferreira, of
11 course, brought a new set of eyes to this problem and
12 searched very widely, more widely than we'd been able to in
13 2014, and he couldn't identify any directly comparable
14 event either. So I'm very confident there are no such
15 papers in the scientific literature.

16 So in essence then, when we turn to page 14 or 0021, where
17 you've set out some conclusions, can you just explain to
18 the board what those conclusions were?---The main problem
19 we faced in this literature review was a limitation of the
20 literature. There were very few studies that had looked
21 both at mortality and morbidity. So I think the department
22 had hoped that we might be able to come up with some sort
23 of summary, mortality/morbidity ratio, but in the end, that
24 didn't prove possible and we had to base a lot of our
25 conclusions on just one study, which had been conducted by
26 Associate Professor Geoff Morgan and colleagues in Sydney,
27 and they had been looking at smoke from bushfires and they
28 had examined both mortality and hospital admissions. They
29 did not find an effect of those bushfires upon mortality.
30 There was no effect of the exposure to bushfire smoke upon
31 cardiovascular hospital admissions, admissions for heart

1 disease, but there was an effect on hospital admissions for
2 respiratory disease. So that study suggested that there
3 would be an effect on morbidity but not on mortality. So
4 we thought it was unlikely that there would be research
5 showing an effect on mortality without an effect on
6 morbidity, but we were limited by the evidence that's been
7 published in the scientific literature.

8 So really, firstly, you can't say, in relation to - the outcome
9 of this review didn't tell you whether, in relation to the
10 Hazelwood Mine Fire, you could have an increase in deaths
11 without an increase in one or more of those markers of
12 morbidity?---We formed an opinion that that would be
13 unlikely, but it is based solely on one Australian study
14 and we acknowledge that the exposure from a bushfire is not
15 exactly the same as the exposures that occurred from the
16 Hazelwood Mine Fire.

17 And I suppose secondly, you didn't crunch any data to be able to
18 see whether there was in fact any of those markers,
19 according to that pyramid, of morbidity?---We didn't have
20 any data on morbidity at that time.

21 I asked you about whether you'd done any analysis of any death
22 data in relation to the Latrobe Valley and the fire and you
23 said no. Were you actually provided at a certain point
24 with some data from Births, Deaths and Marriages by the
25 Department of Health?---Yes. We didn't actually request
26 this data, but the Department of Health and Human Services
27 provided it. We actually have not done anything with it
28 yet because we didn't think that we could contribute
29 anything new. Where I see the Hazelwood health study
30 having an important contribution is that we will be able to
31 provide better estimates of exposure. So once CSIRO have

1 completed the modelling and once we have some idea of where
2 people were during the fire, we'll have a much better idea
3 of what the exposures were. Now, true we won't still know
4 the individual exposures for the people who have died by
5 then, but I think we can make some inferences and we can
6 conduct an analysis to see if there is a relationship
7 between exposure and mortality, but unfortunately, we're
8 not yet in that position and I don't anticipate that we
9 will be by the time this board has to report.

10 Thank you.

11 <CROSS-EXAMINED BY MR NEAL:

12 Professor, could I ask you to go back to your witness statement,
13 and particularly to paragraph 10, where you're explaining
14 the adult survey. You've said in answer to my learned
15 friend Ms Shann that you were hopeful, in respect of that
16 survey, to capture a study of 7,500 people from Morwell and
17 I did say "hopeful"?---Yes.

18 And 4,000 from Sale?---Yes.

19 And, for the reasons you've indicated, you think Sale is a
20 legitimate control for Morwell, is that how you'd put
21 it?---We've chosen that as the best available comparison
22 community.

23 The numbers that you're aiming for there - I have no reference
24 point for this - but they seem of a very significant
25 magnitude. Can you say why you're aiming for
26 those?---There were sample-size calculations that were
27 conducted by my colleague, Professor Rory Wolf, who is a
28 biostatistician, and again, we utilised that integrated
29 risk model that was the basis of the modelling that we've
30 just been discussing and the rapid health risk assessment,
31 so we would hope to be able to detect a difference in

1 mortality over a 10-year period with those sort of numbers
2 of participants, given the structure of the population and
3 the anticipated death rate.

4 So as an epidemiologist, your aim is obviously for the best
5 quality outcome and that is consistent in this case with
6 numbers of that sort and a duration of 10 years?---Yes.

7 Is it fair to ask you - you said you're optimistic - what sort
8 of cut-off you'd make if the take-up rate is not as you'd
9 hoped?---I've been able to obtain response rates in excess
10 of 70 per cent in my previous research, which has mostly
11 been conducted within Melbourne, although I have
12 collaborated with colleagues around Australia. There isn't
13 a hard and fast figure below which one says the data are of
14 no value, but clearly the poorer the response rate, the
15 less valid the data are. So to be realistic, it would be
16 nice to get 70 per cent in Morwell. I'm not sure that the
17 comparison community will be as interested in the research.
18 We will try very hard, but we might have to settle for,
19 say, 60 per cent in Sale.

20 Just to extend that idea, the smaller that population, do I
21 understand the less beneficial it will be to you, in the
22 sense that randomness starts to play more of a part in a
23 smaller population than it does in a large one?---The
24 smaller the population, the less confidence we can have
25 about the findings and any estimate of risk. In
26 statistical terms, the confidence intervals become wider.
27 It would be reassuring if it was a random process, but it
28 is probably not a random process. The people who choose
29 not to participate or cannot be engaged tend to be
30 different from those who do participate, so the results can
31 become biased.

1 Is that because some people with, say, poor health will decline
2 or what do you mean?---That is a possibility. But
3 typically what we've found in our previous research is that
4 usually women are more interested in participating than are
5 men and younger people are more difficult to involve than
6 older people. Usually they are at a different stage in
7 their careers and they're moving around and they don't
8 necessarily live at the address that is on the electoral
9 roll, and a group that is of great interest to us are the
10 people who smoke and generally smokers tend to participate
11 less in these sorts of surveys.

12 Yes, I understand. As far as the health survey being
13 geographically confined to Morwell, you say at
14 paragraph 10, "The air pollution modelling provided shows
15 that Morwell was the town most exposed to fine particulate
16 matter during the fire." Do I extend from that that you're
17 really saying this: the greater the exposure to this
18 matter, the greater the response we would expect, that is
19 greater the health effect we would expect?---That is
20 certainly what the literature would suggest.

21 In terms of the responses - how should I put this? - would the
22 perhaps key responders be, in medical terms, cardiovascular
23 and respiratory illnesses?---They are two of the major end
24 points that we're interested in, but as I was saying
25 earlier, we're also interested in effects on child health
26 and mental health and so on.

27 I should have prefaced my question by saying if you were looking
28 at mortality?---Well, most of the deaths that do occur in
29 association with air pollution appear to be due to
30 cardiovascular disease, but some will be due to cancer and
31 respiratory disease and so on.

1 This much is fair, is it: respiratory and cardiovascular would
2 be an expected concomitant of a substantial air pollution
3 event such as this one?---That is what the literature would
4 suggest.

5 I think you also said that this is a unique event and that the
6 studies that you've been able to look at basically involve
7 an urban pollution situation?---Most of them.

8 Is that true of the Morgan study to which you refer?---I'm
9 sorry, which study?

10 The Morgan study I think you referred to in particular?---I'm
11 sorry, I'm not quite sure what study you're referring to.

12 In your updated literature, you referred the board to a study
13 which I think you said was of particular - - -?---Yes, I'm
14 sorry, by Geoffrey Morgan. That was conducted in Sydney.

15 That was a study of an urban population?---Yes.

16 But over quite a long term?---Yes.

17 And it was essentially trying to study bushfire effects on a
18 population, being many events of bushfire over a period of
19 time?---Yes.

20 And then comparing a bushfire pollution day, or particulate
21 matter day, with a non-bushfire day?---That was how they
22 analysed the data, yes.

23 That is the subject of, I think, some more detailed comment in
24 your updated literature report, and I think you're
25 referring in particular to that survey at page 8, under the
26 heading Discussion?---That's correct.

27 For the reasons that you state there in terms, I think, of
28 methodology and length, et cetera, qualitatively, that is
29 the one that stood out for you in terms of if we're going
30 to base an opinion on something, that would be the one
31 you'd go for?---Yes, that was the best study. We have

1 referred in this review to three studies that were
2 conducted to examine effects of the wildfires in Borneo,
3 but the data presented were really quite sketchy and there
4 was no proper statistical analysis.

5 Just staying with that same study and that same page, do I read
6 it as saying this: although the comparison was of bushfire
7 and non-bushfire days and bushfire days being those with a
8 higher particulate matter count, notwithstanding that, the
9 dose being higher on a bushfire day did not seem to relate
10 sensibly to mortality rates?---They didn't find an
11 association with mortality.

12 And, indeed, the association that they did find - and we're
13 talking in relative terms, I understand - was more with the
14 background PM count than the bushfire count?---That's
15 correct.

16 Which, as a non-scientist - perhaps you share the view - was
17 that counterintuitive or counter-hypothetical for you?---I
18 think a relevant issue here is the duration of exposure
19 because there are only a limited number of bushfire days.
20 During the study period, there were 32 bushfire days, so
21 eight and a half years. The rest of the time, which - I
22 don't know - is over 3,000 days, people were exposed to
23 urban background air pollution, so I think that is why it
24 was that pollution that had more of an effect on deaths
25 than the bushfire events, which often are associated with
26 very high levels of particles, but not for very long.

27 That was perhaps a little surprising at first blush. You then
28 looked, however, at the same study and looked at the
29 question of the relationship between an increase in the
30 particulate matter exposure and the morbidity indicators,
31 being cardiovascular and respiratory?---Yes.

1 And between those there were inconsistent results; one was
2 higher and one wasn't?---Well, the clearest effect was on
3 hospital admissions for respiratory disease.

4 So that went one way but the cardiovascular didn't seem to be
5 affected much at all?---There wasn't a significant
6 association.

7 Can I just ask for an explanation. This is a very small-scale
8 document that I'm looking at, but so that I'm sure we
9 understand it correctly, at the bottom of page 9, where you
10 set out a couple of graphs, which are the basis on which
11 you've answered me the way you just did, do I read it
12 correctly that looking perhaps at the cardiovascular
13 mortality all ages, figure 1 - that is the left-hand bottom
14 graph - that in the vertical line above the zero figure one
15 sees, and relevantly sees, a tiny circle in the middle of
16 the line?---Yes.

17 And that's the relative point that we're trying to measure as it
18 goes up and down?---That is the risk estimate, whether
19 there is or is not an excess of, in this case, a death
20 associated with the exposure to bushfire smoke.

21 And because that figure or that circle appears very slightly
22 above the zero line and between the zero and 1, that is why
23 you're answering me the way you are?---It is particularly
24 because of the lines that you can see above and below that
25 point estimate. That is the confidence interval and the
26 confidence interval overlaps zero, so it is quite possible
27 that in fact there was no increase in cardiovascular
28 mortality.

29 And that is true as a general proposition, is it not, where a
30 confidence interval laps between below 1 and above, then it
31 is a very equivocal outcome?---It is technically a question

1 of the scale of measurement. So here we're looking at
2 per cent change. So a per cent change of zero means there
3 is no effect. If it is a relative risk, then a relative
4 risk of 1 means that there's no effect.

5 And that same principle applies to the respiratory graphs on the
6 top of page 10, do they not?---Yes, and the reason that I'm
7 saying they did find an increase in respiratory admissions
8 is if you look at the line for the day of the bushfire
9 smoke - that is zero - you can see that the bottom limit of
10 that confidence interval is above zero, so there is a
11 significant effect. That effect was not just due to
12 chance.

13 I appreciate you have said already that the Morgan study is the
14 one quality study that you're - and it is substantially the
15 basis for the outcome of this document, is it not, in terms
16 of - - -?---Yes, it was.

17 As far as accepting the limitations of that document, is it fair
18 to understand that what these graphs and your text indicate
19 to us is there doesn't appear to be a coherent relationship
20 between elevated PM 2.5 counts and morbidity and
21 mortality?---Well, this particular study was looking at
22 PM 10, which is slightly larger particles, but they didn't
23 find an effect on mortality. They did find an effect on
24 respiratory admissions. They did not find an effect on
25 cardiovascular admissions. It is clinically quite
26 plausible because people are breathing in the smoke, so it
27 is not surprising it would have a bigger effect on the
28 respiratory system than the cardiovascular system.

29 Should we understand that when one measures PM 10, one includes
30 PM 2.5?---Yes. PM 2.5 is a subfraction of PM 10. In
31 bushfire smoke, my understanding is that in fact most of

1 those particles are in the fine fraction there, PM 2.5.
2 One point on the notion of harvesting, which you touch on at
3 page 4 of your updated literature review, and that is about
4 two-thirds of the way down the page, can I have a go at
5 saying what I think it means and you can agree with me or
6 not? It is essentially the phenomenon which says that
7 where deaths are imminent, another factor may intervene to
8 slightly accelerate the imminent event and, amongst other
9 things, the effect is that a death rate might go down
10 because you've actually brought forward imminent deaths
11 into another period?---I think that is a fair statement of
12 what is meant by harvesting, but the point Dr Dennekamp
13 made there is the literature would suggest it is probably
14 not a major explanation for the observed effects.

15 So in terms of the harvesting effect, the sorts of pollutant
16 fallout from a fire such as this does not seem to exhibit
17 the harvesting effect?---Well, precisely what would be
18 observed from the Hazelwood Mine Fire smoke I don't think
19 anybody currently knows, but if the exposure is comparable
20 to the others that have been examined in the literature,
21 you wouldn't expect a lot of harvesting.

22 Going to the conclusion of this document, can I put it to you
23 this way, and again the caveat has to be the limitation of
24 what you have been able to study, but based on that is this
25 fair to say, in cases where you know definitively there has
26 been an increase in mortality due to environmental smoke
27 effects you would expect to see an antecedent increase in
28 morbidity?---Yes, that would be expected.

29 And as a corollary of that can I put this to you, where you have
30 increased morbidity from the same event you do not
31 necessarily expect to see increased mortality?---No, not

1 necessarily, it would be a function of how extreme the
2 exposure is and the health of the underlying population
3 that have been exposed to it. I could give you another
4 example beyond the scope of this review but one of the most
5 infamous events of pollution was the fog in London in 1952
6 and that was very clearly associated with both a dramatic
7 increase in mortality and at least 3,000, I think it may
8 have been up to 12,000 people died and there was also a
9 dramatic increase in the use of hospital services.

10 Qualitatively is it also fair to say sulphur dioxide was a very
11 prominent factor in the London smog?---Yes, it was.

12 Which is not here?---No.

13 Thank you, professor, I have no further questions.

14 <CROSS-EXAMINED BY MR BLANDEN:

15 Thank you, sir. I have a few questions. Professor, when you
16 undertook the rapid health risk assessment the first
17 document it would appear, and please tell me if I have this
18 wrong, but it appears that it wasn't difficult to come to
19 the conclusion that the principal risk to the community
20 affected by the fire was going to be fine particulate
21 exposure?---Yes, on the basis of data we have been provided
22 that appeared to be the major pollutant certainly.

23 You were able I think you said to relevantly quickly rule out
24 sulphur dioxide and other pollutants that may have possibly
25 been involved, again you didn't think were likely to have
26 much of an impact on the health of the community?---Yes,
27 with the possible exception of carbon monoxide all of the
28 levels of the other criterion were within the national
29 environmental protection limits.

30 You in the modelling that followed used a measure of exposure,
31 and we're now on page 5 of your report in that middle

1 paragraph again, this is the rapid health risk assessment,
2 page 5, middle paragraph?---Yes.

3 And in terms it reads as follows, that based on these findings
4 about the types of health outcomes related to pollutants,
5 epidemiological modelling undertaken as part of what you
6 found had combined PM 2.5 exposures, and on it goes. The
7 point of my question is simply this, you used a minimum
8 exposure to posit the danger caused in a particular manner
9 in that circumstance?---We used an average level of
10 exposure and in fact given the way that's expressed, and
11 please understand I wasn't personally the one who undertook
12 the modelling, I think what must have been done is that
13 that level of 250 micrograms per cubic metre applied to the
14 southern part of Morwell, then for the rest of Morwell it
15 was around the national environment protection measure
16 which is 25 micrograms per cubic metre.

17 Whichever part of Morwell you're talking about, you still need
18 the exposure to the particular matter obviously enough to
19 provide a risk?---Yes, the whole town was exposed.

20 So insofar as the level of particulate matter is concerned the
21 risk arises because of the exposure to the particulate
22 matter on the days where that exposure took place?---Yes,
23 and the literature would suggest there really isn't a safe
24 level of fine particles, the higher the exposure the
25 greater the effects.

26 In terms of the modelling that you had done by the CSIRO you
27 indicated clearly enough that that modelling showed that
28 Morwell was effectively at greatest exposure of persons to
29 particulate matter?---Morwell was the town that was most
30 exposed but the map that I have provided is only a
31 preliminary analysis, it's the first run of the mill models

1 and what they're currently doing is attempting to calibrate
2 that with what ground level measurements were available at
3 the time.

4 Certainly based on the modelling if you see an adverse effect as
5 a result of particulate matter exposure you would expect to
6 see it in Morwell?---Yes.

7 As opposed to but not to necessarily exclude the other areas
8 around it but the greater effect, if you like, of a
9 particulate matter exposure would be likely to be
10 Morwell?---The most exposure to the community was Morwell
11 but you can see from the map there was some exposure in
12 Trafalagar and Traralgon and that's as far (indistinct)
13 lower level.

14 And as a matter of probability is it fair to say that the area
15 where you found the greater exposure is the area where you
16 are most likely to find as an effect of that exposure, in
17 other words in our context if there were to be a death or
18 deaths as a result of that exposure they would more
19 probably be found in Morwell than elsewhere?---More
20 probably, yes.

21 Thank you.

22 <CROSS-EXAMINED BY MS FITZGERALD:

23 If I can just take you back first of all to some of the comments
24 you made about the updated literature review, I just wanted
25 to clarify, my learned friend Mr Neal, took you to the
26 Morgan study of the Sydney population, and you have spoken
27 to some extent about the limitations in the data underlying
28 the various studies that you have been able to locate, and
29 those limitations you would agree include that those
30 studies deal with either urban area pollution or with
31 bushfire smoke which is qualitatively different from the

1 mine fire smoke, that's right, isn't it?---Yes, the initial
2 rapid health risk assessment, the literature there was
3 predominantly on urban area pollution, in this updated
4 literature review point we focused very much on fire smoke.
5 When you consider the Sydney based study which in the updated
6 review which you said was the better quality of the studies
7 you considered in that review, there are a number of other
8 factors that limit the comparison with the mine fire event
9 and I just want to go through a few of them with
10 you?---M'mm.

11 So one would be that you were dealing with a combination in
12 Sydney in terms of the pollution loading that the
13 population there experiences, you were dealing with a
14 combination of urban air pollution and bushfire smoke
15 pollution which is going to be qualitatively different from
16 the pollution exposure that the residents of Latrobe Valley
17 experienced during the mine fire, that is right, isn't
18 it?---Yes, that's correct.

19 And another limitation is that the residents of the Latrobe
20 Valley and in particular Morwell may be engaged in
21 occupations that differ in terms of exposure levels to
22 residents of Sydney, for example, Sydney would likely have
23 a higher population of indoor workers than a rural area
24 would?---Yes, I think that's a fair summary, we are aware
25 that many people in Morwell were employed by the former
26 State Electricity Commission and that's an area we do wish
27 to obtain information on in our adult survey.

28 So it's difficult to compare the statistics or the outcomes of a
29 study based on a Sydney population with Morwell or
30 surrounding towns when it's difficult to know how similar
31 the levels of exposure would be due to their activities

1 during the day?---Look, I accept there are qualitative
2 differences between the populations.
3 Another difference would be the proximity to the source of the
4 smoke, so the town of Morwell is located adjacent to the
5 immediate source of the smoke whereas Sydney is not
6 immediately adjacent to the source of the bushfire smoke in
7 the study you considered?---Well, it's a little outside my
8 area of expertise. I believe one of the things about
9 Sydney is it has these green wedges that come down through
10 the suburbs, so at least on some of those occasions there
11 were bushfires - I think in Ku-ring-gai Chase National Park
12 and elsewhere that were directly threatening homes and
13 populations, I accept overall the proximity to the fire
14 wouldn't have been as great.

15 That's because in the Morwell situation it's entirely unique in
16 terms of studies that you have been able to access to find
17 a town located immediately adjacent to an open-cut coal
18 mine that is unfortunately lit on fire, there is nothing
19 comparable to that that you have come across, is
20 there?---We could not find a directly comparable
21 (indistinct)

22 Another differentiating factor and limiting factor which you
23 touched upon in terms of comparing the Sydney study with
24 the experience of the Morwell residents is that the Sydney
25 study looks at the impact of 32 independent days of
26 bushfire/pollution over an eight day period whereas the
27 residents of the Latrobe Valley were exposed to 45
28 consecutive days of exposure which would likely have a
29 different impact, wouldn't it?---Yes, I agree and the
30 duration of the exposure was definitely greater than in
31 Morwell and that's one of the reasons we used a model based

1 on accumulative exposure.

2 Taking you to page 4 of the updated literature review, if you

3 look at the final sentence of the third paragraph down it

4 reads: "As brown coal originates from organic material

5 including plants, it is expected that pollutants from

6 vegetation fire smoke would be relatively similar to those

7 from brown coal mine fire smoke." You don't have a

8 qualification as a chemist, do you?---No.

9 And you wouldn't be able to comment on the constituent

10 properties of brown coal as opposed to the constituent

11 properties of various burning properties in any of the wild

12 fires or bushfires considered in that study, would

13 you?---I'm not a chemist or an expert in coal combustion.

14 As part of drawing up the proposal for the Hazelwood fire

15 study we did seek some advice from Professor Alan Chaffee

16 from Monash University but he didn't play any part in this

17 particular review.

18 He certainly didn't contribute that sentence I just read out to

19 you, did he?---No.

20 And it's fair to say comparing brown coal to plants or organic

21 vegetation burnt in a bushfire, there is no scientific

22 weight to the comparison that's made in that sentence, is

23 there?---Well, we were asked to update the literature

24 review, we tried our best with the literature that was

25 available, there was no literature on fire in an open-cut

26 brown coal mine.

27 If I can take you back to the health and risk assessment, you

28 were asked by my learned friend, Mr Blanden, about the

29 chemicals or pollutants that you considered in that risk

30 assessment and an emphasis was placed on the consideration

31 of the effect of particulate matter and carbon monoxide in

1 that study, and at the time of undertaking that study you
2 didn't have any data on the measurements of air toxics
3 including polycyclic aromatic hydrocarbons, dioxins, boron,
4 formaldehyde or other volatile organic compounds, did
5 you?---No, we didn't.

6 Are you able to say whether those various substances if they
7 were also released by mine fire, whether they would
8 compound the effects of the pollutant levels of particulate
9 matter or carbon monoxide that was released into the
10 air?---I'm not a toxicologist, Professor Brian Priestly one
11 of the authors of this report contributed to that part of
12 it. What I can say is things like polycyclic aromatic
13 hydrocarbons which are large molecules, multiple rings of
14 carbon atoms are considered carcinogenic so one wouldn't
15 expect to see a short-term health effect but if there were
16 elevated levels of polycyclic aromatic hydrocarbons it
17 could increase the risk of cancer over time.

18 And with respect to the other various chemical matters that
19 weren't included in the data you had, you can't provide a
20 comment on how they would have act in combination with the
21 other pollutants?---I think you would be better informed
22 asking a toxicologist those questions.

23 Thank you. You gave some evidence about the long-term health
24 study and you said that the study doesn't consider the
25 deaths that have occurred since the commencement of the
26 mine fire on 9 February and up until the time that the
27 adult health survey commences; you made a brief comment on
28 a limitation in reviewing those deaths being that it would
29 be difficult to obtain data about confounding factors, for
30 example, whether the person who died was a cigarette smoker
31 and the like. If you or another organisation were provided

1 with adequate funding if would be possible, wouldn't it, to
2 go back and review the information about cause of death to
3 potentially contact next of kin, to enquire into
4 confounding factors like smoking status or other
5 pre-existing health conditions, for example, diabetes and
6 the like, that would be a study that could be undertaken
7 with appropriate funding, wouldn't it?---I would hesitate
8 to say that any study is completely impossible but I think
9 that would be extremely difficult. We have previously
10 conducted research in occupational health where we have the
11 advantage of routinely collecting records from the company
12 and even then trying to determine something as simple as
13 whether somebody was a smoker or not isn't easy and
14 inevitably with the passage of time people's recollection
15 of events tends to fade so I think what you're suggesting
16 would be very difficult.

17 No further questions, thank you.

18 CHAIRMAN: Thank you, professor, you're excused.

19 <(THE WITNESS WITHDREW)

20 MR ROZEN: There is one further witness that we had hoped to
21 called to and that is Dr Lester but I'm conscious of the
22 time now, I don't think she will be a quick witness. I
23 will be some time with Dr Lester and unless the board wants
24 to start with her evidence now, the better course may be
25 given we have an early start tomorrow to call her tomorrow
26 morning.

27 CHAIRMAN: Yes, we will leave it until tomorrow, start at 9.30,
28 thank you.

29 MR ROSEN: Or perhaps 9.

30 CHAIRMAN: I'm happy to start even earlier if you want to.

31 MR ROZEN: We have a way to go, so perhaps 9.

1 CHAIRMAN: If the consensus is 9 then 9.

2 MR ROZEN: Can I remind everyone we have a 2.30 finish tomorrow
3 because of the availability of the hall, I think there is
4 some prospect we will finish the evidence of Dr Lester and
5 the experts tomorrow but I will have to concede there is a
6 risk we may not. We will have a better sense of that as we
7 go tomorrow.

8 CHAIRMAN: Yes, thank you.

9 ADJOURNED TO 2 SEPTEMBER 2015 AT 9 A.M.